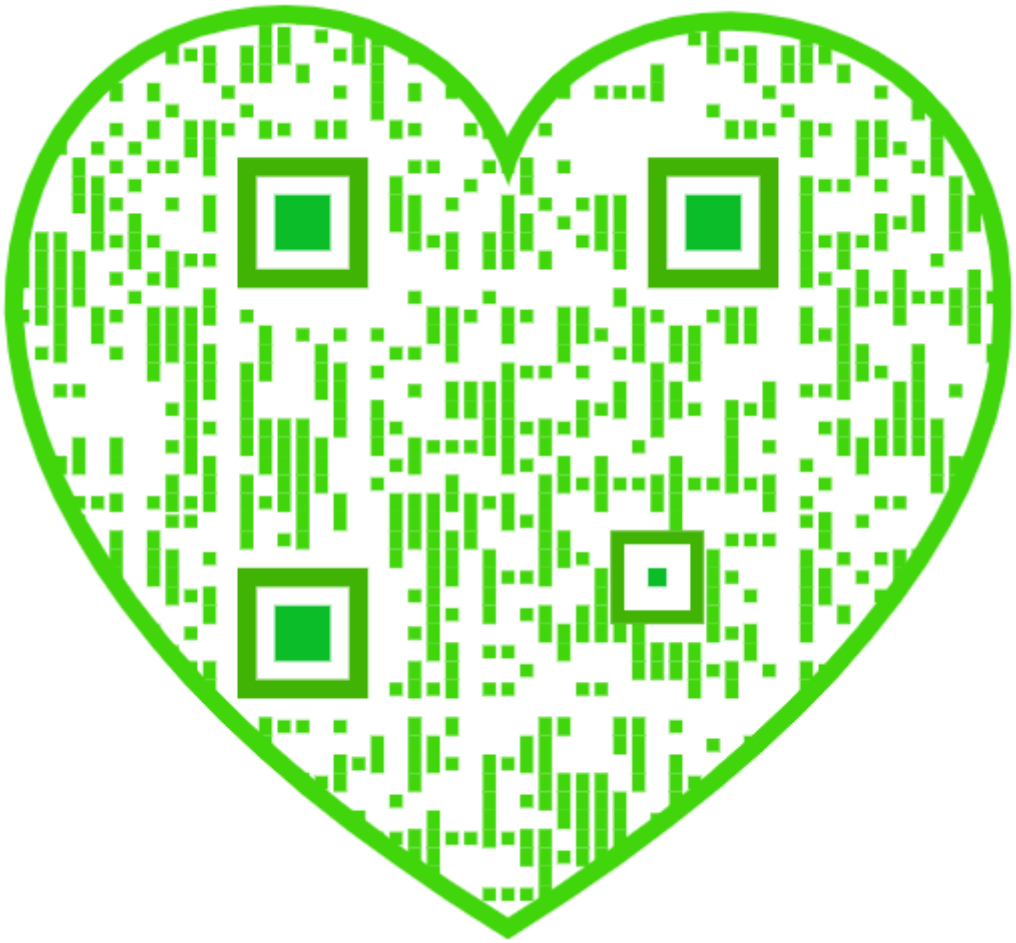

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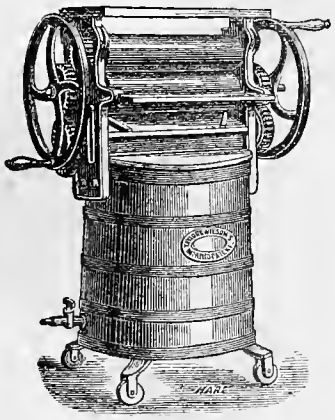

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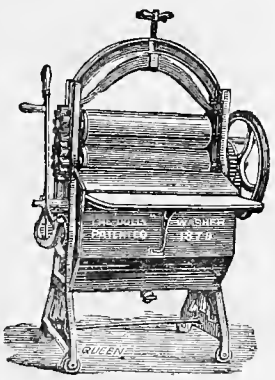

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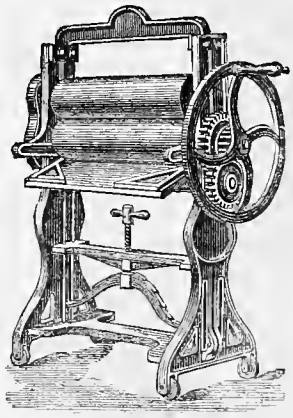

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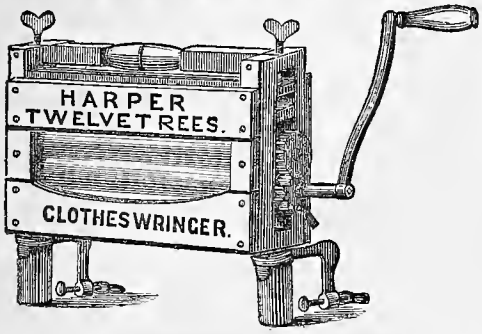

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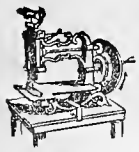

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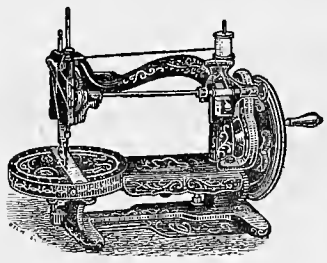

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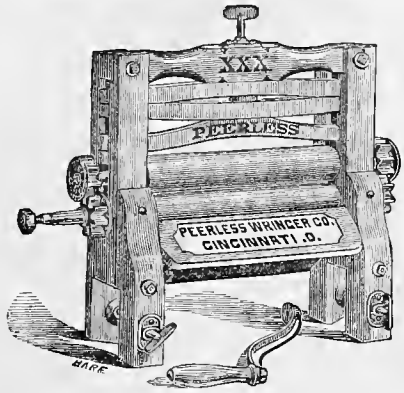

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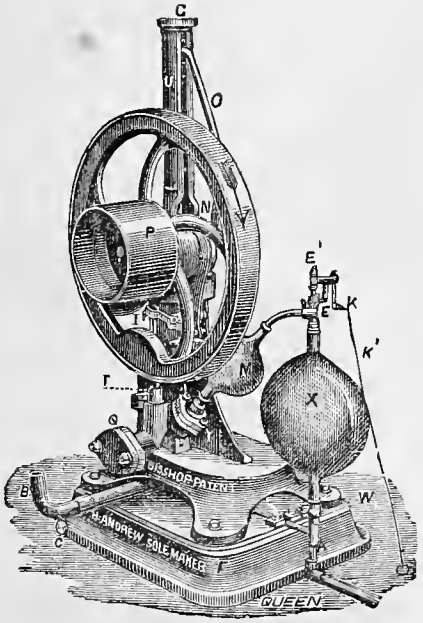

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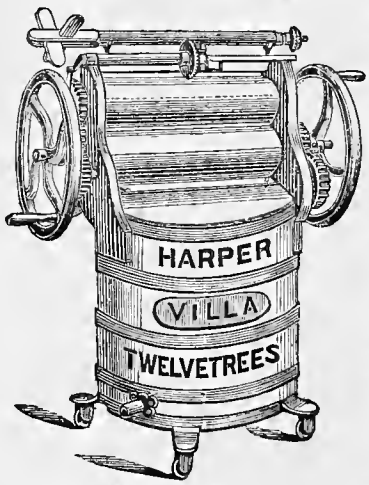

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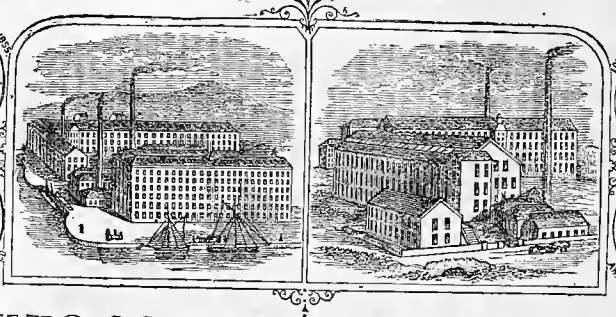

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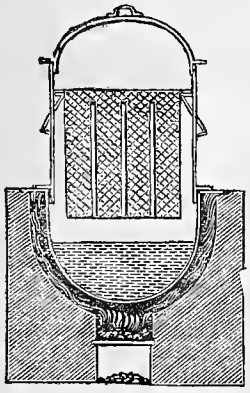

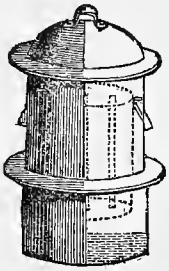

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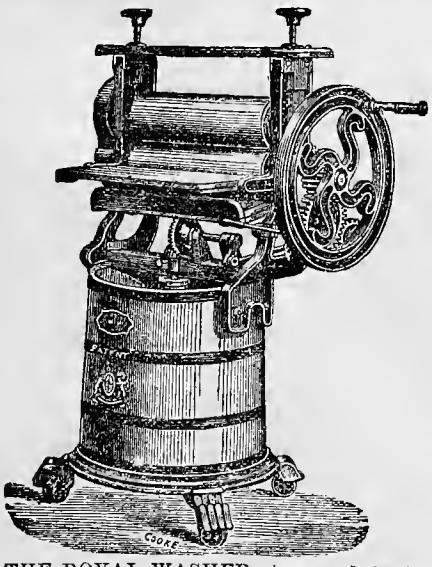

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THE ROYAL WASHER, strong and simple in construction. An ornament to every home, and the delight of every wife.
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Made in all lengths, free from knots, and guaranteed full measure as marked.

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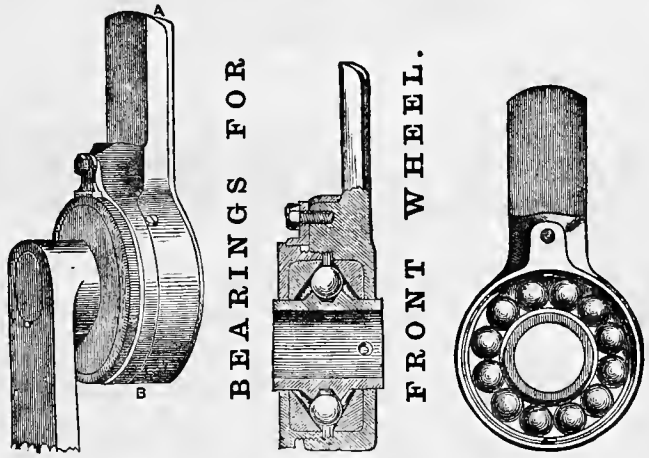
UNIVERSALLY ADJUSTABLE, DUST PROOF, DURABLE, AND REQUIRE BUT SLIGHT LUBRICATION.



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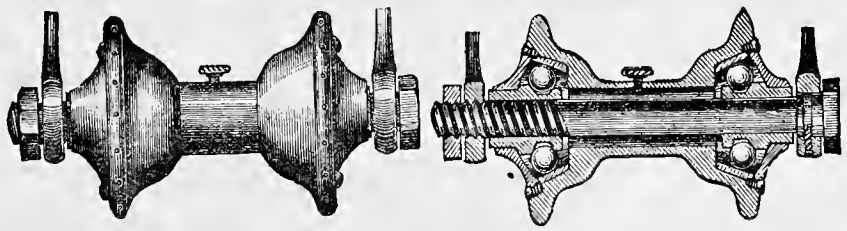

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Won the 25 and 50 MILES AMATEUR CHAMPIONSHIP RACES on a Bicycle fitted with "Æolus" Bearings, BEATING RECORD TIME, and in a Five Mile Race BEATING RECORD TIME in Three, Four, and Five Miles.

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N.B.—Considerable reduction in price of the "Æolus" Bearings this Season.

THE NEW AMERICAN BUTTON-HOLE, OVER-SEAMING AND SEWING MACHINES.

MANUFACTURED BY THE

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The New Hand, Treadle and Manufacturing Machines are
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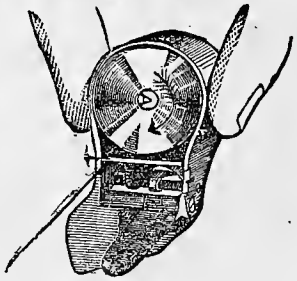
SO SIMPLE they require no care.
SO STRONG they never wear out.
Self Setting Needle. Self Threading Shuttle. No Holes to Thread.
No Screw Driver necessary.

THE SELF-THREADING SHUTTLE

Is one of the chief attractions of the American Sewing Machine,



And is considered by all who have used it to be one of the Most Valuable Improvements that has ever been introduced.

The Shuttle and Bobbin can be taken out and replaced with great facility in **one-fourth** the time usually necessary with other Machines. The tensions are evenly adjusted without loss of time—the under tension being self-regulating, and no threading-up required in the Shuttle.

Our Machines are unequalled for simplicity in construction, light running, durability, and do every kind and variety of work done on other Lock Stitch Machines with greater rapidity, ease, and perfection. **Price from £4 4s. upwards.**

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The Machine will make from four dozen to ten dozen button-holes per hour, and *besides* making a great saving i the cost of production, it secures a finish and uniformity to the work which is necessary to the fine and coarse grades of material. **Price £12 10s.**

The highest medals have been awarded to the Machines made by this Company.

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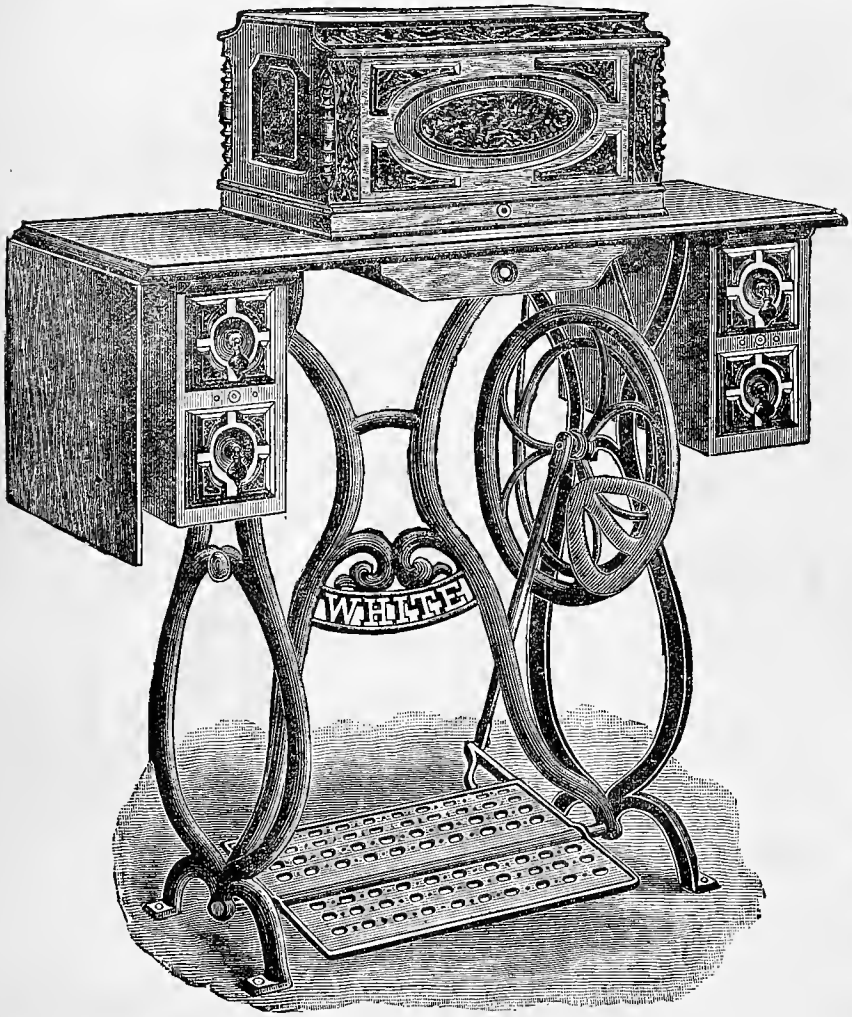

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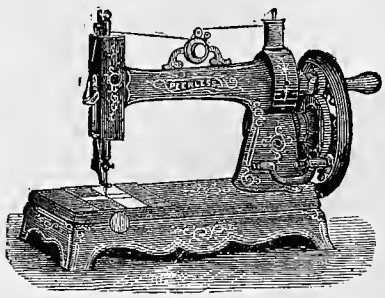

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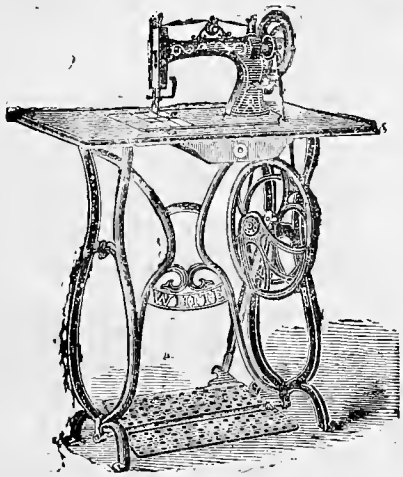

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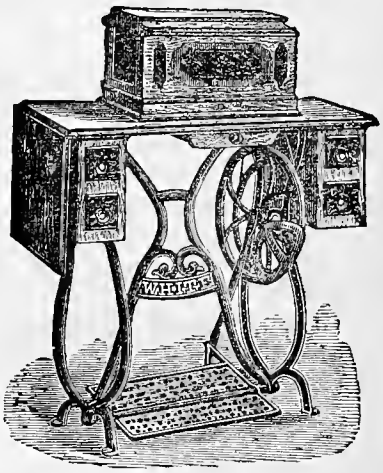

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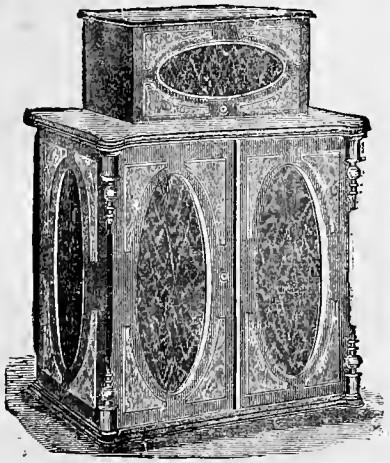

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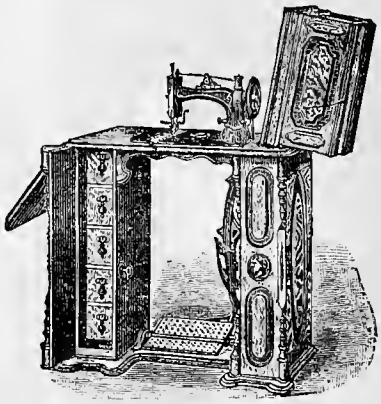

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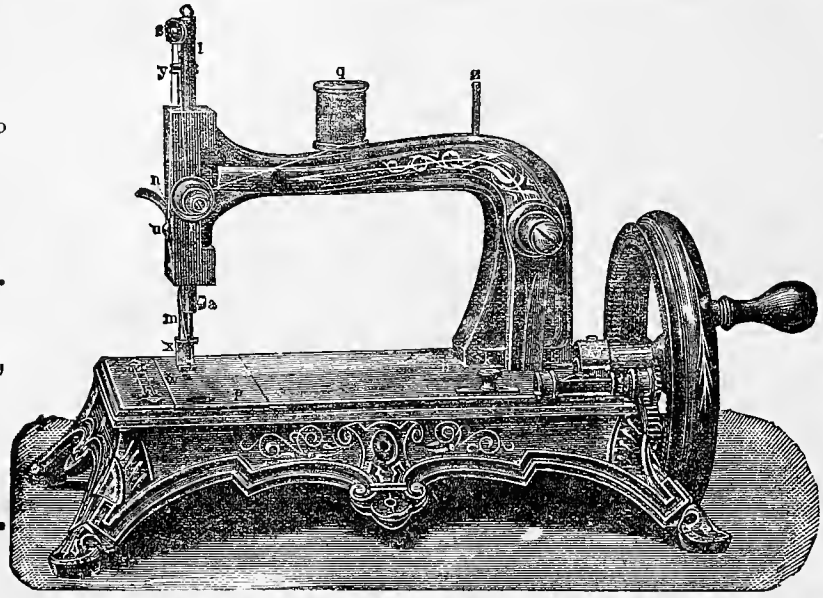

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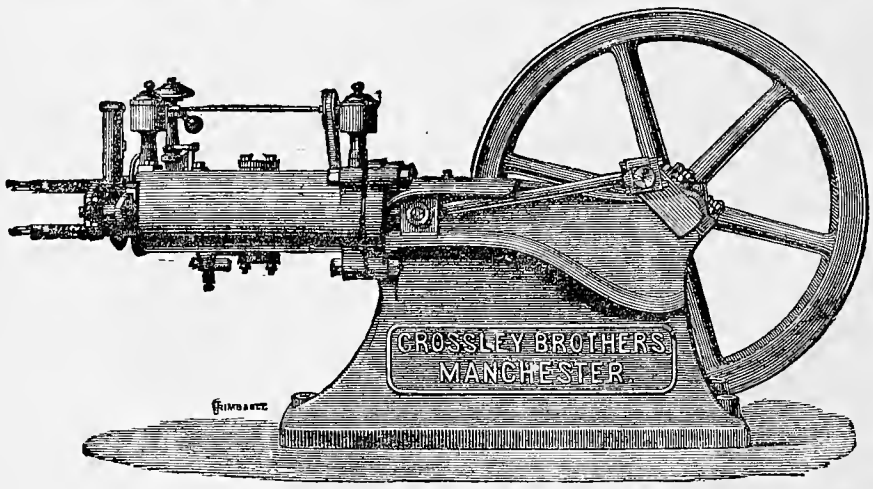

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116, Queen Victoria Street, E.C.
LONDON.

IMPORTANT CHANCERY SUIT.

THE SINGER MANUFACTURING COMPANY *v.* LOOG.

Judgment in the Court of Appeal.

The hearing of the appeal from the decision of Vice-Chancellor Bacon in this important cause, after hanging fire for more than twelve months, was at last set down for hearing on the 6th ult., but it was not till the morning of Dec. 7th that the case was actually reached, and the appearance of the Court when Sir Henry Jackson rose to open the pleadings on behalf of the appellant was very strikingly in contrast to the animated and almost excited aspect which the court below presented when the cause was first heard in July, 1879. There was no appearance of a crowd on any day of the present hearing, and very often not more than five or six representatives of the trade were present on either side. The absence of Mr. Geo. B. Woodruff's familiar face was especially noticeable. Like a wise man, he had quitted our foggy shores a month or two before, to spend his Christmas amid the warmth and sunshine of Australia. On the defendant's side of the house there were only some two or three veteran litigants present—men who have gone through this sort of thing before—as, for example, Messrs. Runcieman and Newton Wilson, who were daily in attendance, and manifested the most lively interest in the proceedings. But the majority of the members of the trade were not there. To the bulk of them, no doubt, it was a foregone conclusion that, whichever way the judgment of the learned lords might tend, the only safe and profitable course open to the sewing machine trade to-day is to try and build up a name each man for himself, very wisely leaving other people's alone; consequently they stayed away, leaving Mr. Loog to fight his battle out pretty much by himself. For the Singer Manufacturing Company there appeared Mr. Kay, Q.C.; Mr. Benjamin, Q.C.; Mr. Theodore Aston, Q.C.; Mr. Hemming, Q.C.; and Mr. Rigby; while for the defendant there appeared Sir Henry Jackson, Q.C.; Mr. Webster, Q.C.; and Mr. Everitt; the learned judges being Lord Justice James, Lord Justice Cotton, and Lord Justice Lush.

The arguments of counsel occupied a very considerable amount of time—several days in all, but as they were little more than a recapitulation of the remarks that had been addressed to the Vice-Chancellor on the first hearing, no useful purpose would be served by their reproduction here. It was pretty generally understood that, whichever way the decision of the Lords Justices might tend, the case would be carried to the House of Lords for final settlement, and as this duty has been cast on the plaintiffs, there is very little doubt that, with all convenient despatch, a hearing will be obtained before the Court of Final Appeal, when this vexed yet simple question will probably be decided for ever. The judgments of the Lords Justices were listened to with the utmost attention by those present, but the Court was at no time anything like half filled.

JUDGMENT.

Lord Justice James said:—In this case of the Singer Manufacturing Company *v.* Hermann Loog, it appears to me at the conclusion of many days spent in reading evidence and argument, and comments made upon the evidence in this Court, and which many days are after all a very short time compared with the very much greater number of days which were occupied in the Court below, that the case is a very short and very simple one, and I propose—as far as I am concerned—to deal with it very shortly.

Upon the question of law which is involved in this case, there is to my mind no dispute whatever; I have often endeavoured to express what I am going to express now, and probably I have said it in the same words, because it is very difficult to find other words in which to express it—that is, what my view of the law is, and that is, that no man is entitled to represent his goods as being the goods of another man; and no man is permitted to use any mark, sign or symbol, device, or other means whereby, without making a direct false representation himself to a purchaser who purchases from him, he enables such purchaser to tell that lie, or to make that false representation to somebody else, who is the ultimate customer. That being the law, and that being—as it appears to me—a comprehensive statement of what the law is upon the question of trade mark or trade designation, I am of opinion that there is no such thing as a monopo y or a property in the nature of a copyright, or in the nature of a patent, in the use of any name. Whatever name is used to designate goods, anybody may use that name to designate goods, always subject to this, that he must not, as I said, make directly or through the medium of another person a false represe.tation that his goods are the goods of another person. That I take to be the law.

Now, applying that law to the facts of this case, I am of opinion that the label, which the defendant was, as I conceive, very well advised to discontinue the use of, and to submit to be enjoined from using in future, was calculated to deceive, and was calculated to make a false representation as between somebody who did not know who the real manufacturer was, and his vendor, and that upon many grounds the label was of the same shape, of the same metal, of the same colour, placed in exactly the same position in which the Manufacturing Company's label was put, and it did contain the word "Singer," no doubt with other words annexed to it, which might very easily have become obliterated, or have become overlooked, and, therefore, in my opinion, it comes entirely within those cases in which it is calculated, and if calculated, must be assumed to have been intended to make that false representation.

But when I come to the other documents, really, after all I have heard, I am unable to see anything which could deceive any human being. Then, first of all, it is said we must not look at it as if we were looking at it ourselves, but consider that these things, to some extent at all events, and in the ultimate result, might get into the hands, and be the means, and be made the means, of deceiving the class of persons called tailors and seamstresses, and people of that kind, who are supposed to be peculiarly liable to be unwary and easily taken in in such a matter as this.

Now I cannot agree quite in that. I am myself of opinion that that class of persons in a matter of their own trade, in buying their own trade tools, or their own trade machines, are, I should think, as sharp, as acute, and as suspicious as anybody, and that they would be so careful in getting the real article which they went to buy, that they would have their

intellect sharpened to a great extent, so that they would be as ready to detect any sign of spuriousness as a bank clerk who has been in the habit of dealing with such matters would be to detect whether a sovereign is bad or not, or whether a bank note is a forgery. Whatever be the class of persons who buy these things, we must at all events imply that they are persons capable of reading and writing, or capable of reading at all events. How does it stand to begin with? A Mr. Hermann Loog has got an office or counting-house at 128, London-wall, London. It does not appear, and there is nothing in the evidence to show, that the shop has anything in its external appearance, by any name or any designation, which would induce people to go there to buy the machines of the plaintiff company. The defendant is the wholesale agent of manufacturers, and, so far as it appears to me from the evidence, he invites the public, to begin with, to come and deal with him, by using the circular, which I take to be the first thing. The circular says where he is, what he is, and what it is he is offering to the public.

Now he says this in very large type, with a picture of the place of his manufactory. "The improved Wheeler Wilson and Singer systems, manufactured by the Sewing Machine Manufacturing Company, late Frister and Rossmann, Berlin." Well, stopping there, how is it possible for anybody who can read to suppose that a man who is offering an improved Wheeler Wilson or the Singer system manufactured by the Sewing Machine Manufacturing Company, late Frister and Rossmann, Berlin, was offering something of the plaintiffs, and the man who was buying under this circular was really induced to buy a thing supposing it was made by the plaintiffs? But then the thing goes on in the plainest terms to say, "We are competing with them; we know they are good, but we are better." They say this first of all, their manufactory "is the only manufactory in Germany where sewing machines on the Wheeler Wilson and on the Singer system are produced on a really large scale. With the aid of the most complete and costly machinery, and all the newest improvements, every part of the machine is turned out in a style not to be surpassed." Then after a little they say, "Our two systems, namely, Wheeler Wilson and Singer, are those which are mostly in demand; they both answer the same purposes, and it would be difficult to establish a difference of their respective values; and yet we find one prefers this system, one the other; indeed, we find that the preferential difference exteuds to whole districts, for while in some towns we can only sell Wheeler Wilson's, in others Singer's only are in favour, and thus it seems almost natural that every buyer gives preference to that system which happens to be particularly recommended to him. We, as manufacturers, can recommend both with equal confidence, and we can confidently assert that the finest muslin to the very thickest cloth will be worked with perfection on all our machines. We also refer to our instruction book given with every machine, and by means of which every one can do any kind of work without other assistance. We may still mention that our machines are all of one standard quality, and the difference in price only refers to more or less ornamental work. Our Wheeler Wilson machines, contrary to those of most of our competitors, are provided with rotating hook and feed-bar of best hardened steel, instead of cast iron. Our Singer machines are made with the loose wheel arrangement, which greatly economises the labour of spooling, and is a saving of quite 25 to 30 per cent. in the wear and tear of the machine; they are also provided with feed points," and so on. "We can also supply with every Singer treadle machine an appliance by which it can at will be converted into a hand machine." Nobody who reads that, who is capable of reading at all, or capable of entertaining an idea at all, whether a tailor or a seamstress, or any other person, could have the slightest doubt that they were in competition with the plaintiffs. I think I passed a sentence in which they say, "Ours are better than the so-called originals"—that they are competing with the maker. They say in so many words, "We enter into competition with all other makers of machines; you must come to us and see whether "ours are not the best.

Well, that, as I understand, is the thing by which the world and the public are invited to come to them, by which anybody is invited to come to the counting-house of Mr. Loog. Well, anybody who comes there, or comes to him, knowing him to be the agent for the Manufacturing Company at Berlin, receives from him, apparently upon request as far as we know, or some application, a price list of the machines which they are selling, as it is stated. They perceive this price list of the Sewing Machine Manufacturing Company, late Frister and Rossmann, Limited, 128, London-wall, London, E.C., then a price list which is marked "private." That would be a private list in order that the ultimate customer should not see it. The meaning of the price list is that those are the prices to their own customers, the dealers, not to be shown to all the world, because their customers would not like the ultimate customers to know the price they are paying for the machines. This is the private wholesale price list, not intended to be communicated to the whole of the world, and therefore it is a private wholesale price list. It is supplied to those who apply to them as wholesale dealers, and who are going to sell them again; it is "Wheeler Wilson Improved System" and "Singer Improved System." Well, what is there in that from which anybody could suppose (unless the word "Singer" is supposed to be enough to do it) that they are getting the article of the Singer Manufacturing Company? I protest I am unable to see how, by this thing being put into anybody's hands, he could be deceived. The first person, beyond all question, could not be deceived. How could this enable anybody in the world to represent to a subsequent purchaser, "You want to have machines from the manufactory which has hitherto been supplied to you; now this shows you that we have got it." It is a very idle and very far-fetched supposition. What is the meaning of "Singer Improved System?" It is said that word could not be honestly put in, because there is no such thing as a "Singer Improved System;" that the words could only be put in to introduce the word "Singer," that it is mere colour, and the word "Singer" was put in to produce the impression that what was meant was the manufactured article of the plaintiffs. The "Wheeler Wilson Improved System" and the "Singer Improved System" to my mind have a very intelligible meaning; whether you call it a "system," or whether you call it a "principle," it has a very intelligible meaning to my mind. We have them all here. They are Singer Machines which are to have certain qualities and certain names, and there are different ones, three or four or five; the three principal ones which they use, each one has some difference, but they are all on the same principle, part of the same system. The three constitute the "Singer Improved System," and the man says, I use the same system, and I have got the same machines exactly in point of arrangement and construction, and form; and, in point of fact, I use the same system, and I have got them arranged in the same way. That disposes to my mind of that document.

Well, the next document is the invoice about which so much has been said. First of all, the invoice is only given to a person who has first of all come in and bought an article. The invoice could be no false representation to a person who knows exactly what he has bought, and who is merely having a memorandum of that purchase. He takes away the invoice from him, which invoice again is headed with a beautiful picture of a manufactory, and three addresses, Paris, Brussels, and 128, London Wall; and above that "Hermann Loog on account of the Sewing Manufactory Co., late Frister & Rossmann, Limited." Then one of the things is called the "Square Treadle Machine" which is not the name of any one of the plaintiff's machines; for I do not think they used the term "treadle" for any of theirs. It is called the "Singer Treadle Machine"—that is to say, as between them that is what it was. They do not say in so many words, "Our Singer Treadle Machine," or, "One of our Treadle Singer Machines," or, "Frister & Rossmann's Treadle Singer Machines;" but that is not necessary because both parties knew exactly what they were dealing with, and one party gets an invoice with a receipt for the purchase money which he has given for the machine. There could be no deception. But it is suggested that this document could be or might be used to enable the man who has bought this—having this invoice—to say, "Now this is the machine which I bought from this company. This is the invoice which I

got for that machine, and look here, do not you see in this invoice it is called the 'Singer Treadle Machine?' Can you doubt that this is one of the Singers that you want to get—that that is one of the machines of the Singer Manufacturing Company?" That to my mind is far too remote. It is too wide a suggestion. Of course, if a man is minded to tell lies, he can tell them without being assisted, because really this document is not the sort of document which ever would be shown by a man who is selling a thing and charging three or four pounds, or whatever the price may be; he would not be showing a document by which it would appear that he only gave two or three pounds for it. That is intended to be kept as private as the price list, and would, in the ordinary course of business, be kept as private and as confidential as the price list between the first vendor and the second vendor.

Then it is said this is strengthened by a purchaser from the defendant issuing a notice of this kind, which, it is said, they knew of, and that therefore they sanctioned this thing being done. I believe that is not one of the things which is charged in the pleadings, but this is "Hoyle, 22 and 24, Warwick-street, Pimlico." He advertises a treadle machine on the Wheeler and Wilson principle, and a treadle machine on the Singer principle, with a mahogany cabinet. Again, I say that is precisely telling anybody who chooses to read, that the thing is not a Singer machine, but something like a Singer machine—made in the same way, and possessing the same merits as the machines of the Singer Company. I am of opinion, therefore, that this case wholly fails, that there is no evidence whatever, except as regards the label, that the defendant has done anything which, either in itself directly or in the ultimate result indirectly, would make that a false representation which it is said is the foundation of all this kind of action.

Now, a great quantity of the evidence on both sides went to one issue—as to whether there was such a thing as a "Singer principle," and whether there was such a thing as a "Singer system"—whether the name "Singer" did originally indicate the manufactory, or indicate the particular kind of thing. Well, a great deal of evidence went to show that of late years it has grown into being the name of the thing, and that was so through a series of wrongful acts of different persons. Now on that, the issue as to what extent the word "Singer" may or may not be used does not seem to me to arise in the present case between the Singer Manufacturing Company and Mr. Hermann Loog; and therefore I decline to enter into that part of the case, or to intimate any opinion on that question.

Lord Justice Cotton: The question we have to consider in the present case is this—whether the defendant has represented that the goods manufactured by him were manufactured by the plaintiffs, or whether he has done anything calculated so to represent. I quite agree it is unnecessary that a fraudulent intention in using the thing complained of should be established. If the natural consequence of those things—even in circumstances not known to him—is, that they will represent his goods to be those of another person, it is wrongful, and, as this Court says, a fraud in him to continue the use, after those circumstances are brought to his knowledge. Well now, we must consider whether he has represented, or done, that which is natural, and in its natural sense reasonably calculated to give that misrepresentation, and we must consider what is relied upon. First, I will put out of the question a great deal of argument, and that which really occupied the greater part of the time of the Court below, because the evidence was very much directed to that. The plaintiffs desired to get a judgment in this case from the Court here, and possibly from the House of Lords, as to whether or no the name "Singer" could be held *simpliciter*, and by itself, to describe the machines made by them; whether, in fact, "Singer" was to be taken to be "as made by the Singer Manufacturing Company," or "made by the Singer Manufacturing Company." Although in one of the matters complained of in this case as having been done by the defendant, there is the expression "Singer"—which I will deal with presently; in my opinion that is not an issue which arises here, because I do not find in the acts complained of by the defendant—with the exception of the bill—that he does call his goods "Singers." Therefore, in my opinion, we are not called upon to express an opinion whether "Singer" has now arrived at the secondary meaning, "as made by the Singer Manufacturing Company," or whether it bears the meaning of "made;" but in every case it must depend of course upon the context whether the word is to be read—as, in fact, "made by," or "as made by;" and therefore it is impossible almost to lay down any general proposition as to the right to use that name which might not be calculated to mislead in some other case which may arise. I will only say this—the label is out of the question, because the defendant has conceded—and I think perfectly rightly conceded—that he was not justified in using that label. That concession has been attempted to be used by the plaintiffs as an admission of their right in all things.

Now I say that it would be most unfortunate if we were induced to give to that concession the effect complained of as regards those things which are the other matters, because it is often said, and often said justly by the Court, when a defendant says, "This matter was to me of no consequence whatever. I used it without any fraudulent intention, and without any desire to misrepresent or to gain fictitious credit." "Why did you not give it up at once; you have gone on fighting to the last, and you cannot be heard to say, it is of no importance?" Here, I think, the defendant was well advised to say, "I will give up that." Whether he was right or not in that I consider is of no importance; but even if it was wrong to use the word "Singer," as he did on that label, that would in no way, in my opinion, rule or decide that he might not use even the same words that he there used on a document, such as a circular or bill, if he had done so. Why? I perfectly agree that if there are words which in terms mis-state and misrepresent the manufacturer of the goods, it is immaterial whether that is found on a label or on a circular, or on anything else; but where the words are not in terms on the statement the effect and meaning of the terms, and the effect, as combined with the label on which they are, may be very different when they are found on a label on the machine, and when they are found in a circular; because if we find that the label is like that of a rival manufacturer, and is on the place on the machine where he indicated by whom the machine was made, the use of ambiguous words—if capable of of being construed to mean that this machine was made by somebody who was not the maker, when put in that place may well be taken, and naturally would be taken, to represent that they were a description of the maker, and not a mere description of the machine or the kind of machine. I pass that by, putting it aside for the present, although I will refer to it by-and-by for another purpose. The label, in my opinion, cannot be construed as an admission by the defendant that he was wrong in other things because he has conceded he could not defend the use of that label with the word "Singer" upon it. Putting that aside for the moment, what are the things relied upon? They are these—and I will take them in what I think their natural order; we have the circular; we have the price-list; and we have the bill-heads. I will consider them separately; although, as far as I can see, that is not really the burden which the defendant has to discharge; because one can see that the circular is sent round to those with whom he is dealing. When they offer to deal with him they get the price-list, and when they have dealt with him they get the bill. When we have to deal separately with the subsidiary use which might be made by the purchasers from him when they get these documents, one must remember this—that here we have a wholesale dealer—that is to say, as I understand, one who, although selling single machines, would sell only to those in the trade—such as a man who is a retail dealer, or who he supposed was so, and who came to him in that character. That gets rid of a great deal of the argument, at least for the present purpose, as to the primary use of this and the argument in favour of the ignorant seamstress who might see this document. But when one comes to this, all that one finds in these documents is a representation—and that was most relied upon—that the improved Wheeler Wilson and Singer systems are manufactured by these persons, the Sewing Machine Manufacturing Company. I pass by that which was pressed upon us about the "Sewing Machine Manufacturing

Company." It can hardly be suggested that was an imitation of the name of the "Singer Manufacturing Company;" but here there is no statement whatever in terms that the machines are "Singer machines," except in combination with other words which show that they are "Our Singer Machines," or "Singer Machines, competing with the original Singer machines." But it is said—and that was very much urged upon us—that "Singer system" was in fact a statement that these were Singer machines without any qualification; that is, machines made by the Singer Manufacturing Company.

Is that a reasonable interpretation of those words? In the first place, we have this. We have the Wheeler Wilson and Singer systems. A great deal of the argument addressed to us was that "Singer system" meant nothing, and that "a system" meant nothing; and that "Singer" must be put there in order to represent that the machines which were offered for sale were made by the Singer Manufacturing Company. But could it be contended that there were not two systems (whether that is the most accurate word or not is another question) represented, on the one hand, by the Wheeler Wilson, and, on the other, by the Singer. As I understand, even the witnesses for the plaintiffs pointed out differences of construction between the Wheeler Wilson and the Singer—that is to say, the machines made by Wheeler Wilson and the machines made by the Singer Manufacturing Company; and when one sees that, it at once gets rid of a great deal of the argument in favour of the plaintiffs in the present case. But I am unwilling to leave it there. Assuming that "Singer system" stood alone, could it be said that "system" was so entirely fallacious, and so entirely a non-existing thing, that the references to "Singer" must be introduced there in the phrase "Singer system" for the purposes of deception? I am not dealing now with the point whether "Singer machine" means "as made by the Singer Company," or "made by the Singer Company." But what we do find is this, that through a series of years (and I go no further back than 1865, for a reason I will explain presently), we do find in the specifications, and we do find in the catalogue, and we do find in other things words such as these. In 1865 in a specification "the well known arrangement of the 'Singer' machines;" in 1866 "the ordinary 'Singer' machines," and then in 1872 "the class of machines called 'Wheeler Wilson' and 'Singer,'" and then I think in a catalogue in the year 1875, we find what is known as "the 'Singer' Sewing Machine." That points, not for the purpose of establishing as against the plaintiffs that there was a distinct system of mechanism in these, but that there was something which not only the public, but those who prepared these specifications, did describe, accurately or inaccurately, in those terms.

Well, then, there is something more. It is said, and perfectly truly, that the case stands differently—that is to say, more favourably to the plaintiffs than it would have done if they had had for years this machine in its entirety protected by letters patent. There were no such letters patent which protected it. That must, I think, be taken as proved, but we do find that they on several occasions assumed to interfere with persons who were selling machines made like theirs, because they said, "You are violating our letters patent;" and that was to some extent acquiesced in, and in other cases it was contested and the patents were, so to speak, broken down. Taking all those things together, can we say that the reference to "Singer system" is so absurd as to induce us to come to the conclusion that "Singer" is here introduced in combination with "system"—not for the purpose of pointing out a particular construction or manufacture, or configuration of machine, but for something else.

Now, I said I would come to 1865 for a particular reason. I omitted the reference to the specification of 1862 because that was not wanted for the purpose of enforcing what I said. Mr. Aston used it for the purpose of answering the argument that these patents, and the expressions in them, are to be received. He says, in 1862 we have a specification which speaks of "the well-known 'Singer' machine," or "the ordinary 'Singer' machine;" and he said "the ordinary 'Singer' machine" there referred to, as shown by the drawings, was one that had not that goose neck which is stated to be looked upon and regarded by persons as one of the indications of "the ordinary 'Singer' machines" as contended for by the defendant. But we have to consider, not what was the ordinary Singer system in the year 1862, not from the end of the 60's—at least, I think, it went back to 1864-65—but what have been the three classes of machines well known in the market, and, as some witnesses say, the only machines known in the market. Certainly those best known, and those most purchased, have been the three classes, the "Family," the "Medium," and "Manufacturing Singer"—substantially in the form and of the construction adopted in the present time; and, therefore, when we are considering what is the meaning of "Singer system" in this circular, published sometime not before 1877, I think we must look and see what was recognised and meant, and reasonably meant, by the "Singer system"—what the public, who well knew these three classes of machine, at that time would consider as the statement of the "Singer system." I have gone into this probably at greater length than it deserves, because it turns on a very short point; but the result, in my opinion, is that we cannot properly come to the conclusion that "Singer System" was intended as a simple device to represent the things as Singer machines made by the Singer Company under the guise of speaking of something which did not exist—viz., the "Singer System." I say it is impossible to suppose that any purchaser from the defendant, a wholesale purchaser, could be deceived by the representations which are contained in that circular. I may then dispose of this as regards any others. If that was put into the hands of any other worker, male or female, in my opinion they would see nothing which could mislead them, or be constructed by them as a representation that those were "Singer Machines" made by the Singer Company, and not machines made in accordance with the system adopted by that company—that is, upon the system of construction, or whatever it may be which was adopted by that company. Now we have something more. We have the price list. It was said that was cast broadcast about, and that is misleading. If that were so I see not how a price list, speaking of "Wheeler Wilson Improved System," and "Singer Improved System" can be a statement that those machines were Singer machines in the sense of being made by the Singer Company. And here one must observe, as possibly I ought to have observed before, with reference to that, that it has been conceded, and must be conceded, that it was within the perfect right of the defendant to gain this benefit from the credit and advertisements of the Singer Company; and that he might say, if he did not say so in a way calculated to mislead, "I make the machines exactly the same as those which were made by the Singer Company, and which are as good, or better than the machines manufactured by the Singer Manufacturing Company." That he would have a perfect right to do; and although no doubt by so doing he would gain a benefit from the credit and advertisements of the Singer Company, and from the course which they have adopted, he would be doing nothing which the plaintiffs could complain of as wrongful; for he has a right to state that, although not to state that his machines are in fact made by somebody else. Well, it is assumed these are scattered about, and that there is something misleading in them; but, as I pointed out to Mr. Aston in the argument, *prima facie*, and in the absence of evidence to the contrary, this is private and sent by the defendant to retail dealers, who buy from them, not that they may tell their customers what is in this, but that they may know on what terms the wholesale company are willing to supply them with these machines, and which would naturally, unless there is evidence to the contrary, be accompanied by that circular.

Now we have another document, and that is one which I agree is most favourable to the plaintiffs. It is the invoice, and I must say it is the only document which gave me any doubt about the conduct of the defendant. This is the invoice, and there is "Singer Hand Machine, No. 14," as the property sold. Of course, that could not be deceptive to the person who bought from the plaintiffs; but it was urged, and that was the only point on which I really doubted during the course of the argument, as to whether it might or might not be used as an instrument of deception by the purchasers from the plaintiffs when they were selling again. In my opinion, if a man does

that the natural consequence of which, although it does not deceive the person with whom he deals, and is, therefore, no misrepresentation by him, is to enable that other person to deceive and pass off his goods as somebody else's, for that he is answerable. But in that case he is confined, in the absence of evidence, to those things which are the natural uses or the necessary uses, it might almost be said, viz., that of accompanying the things sold. For instance, the corks of champagne bottles marked "Möet and Chandon," they must be in the bottles sold and must accompany the bottles. They must accompany the thing to the retail buyer. And so must labels to be put on the bottles. The very reason for their existence is that they must be put on the bottles, and, if they are deceptive and fraudulent, and can be used probably in that way, then the person who prepares them is answerable for it. They must not be used if their natural and legitimate consequence is not to deceive the person to whom they are sold, but to enable the seller to pass off the goods as being goods of other persons. But here, in my opinion, that is not the natural or the necessary consequence of it. Here it is the invoice accompanying the goods sold to a person, who, as I have already stated, has not been deceived in buying from the wholesale dealer—that is, from the defendant; and as the evidence is that it was known that the course was to deal in this way, I must take it that the natural consequence was, not that they should be shown to the retail purchasers, and the defendant cannot be charged with any abuse of this, even if there would be an abuse. Of course if the use of the word "Singer" meant "as made" that would be out of the question, but I do not decide that question. But we have no evidence, according to the ordinary course of dealing, this was naturally or probably so used as to deceive. I must say this, that at the time when this circular was used, it could not have been used for that purpose, nor could that have been the natural consequence. There was on the machine here described a label, and that label, if it said anything, said it was a "Singer Machine"—that is, made by the plaintiff company; and in considering what was the natural use or object of those bill-heads, one cannot but have regard to that fact, and you find that when purchasers from the defendant do advertise what they have to sell (it is put in by the plaintiffs, or I should not have referred to it), they advertise it as the system, and not as made by the company, because we have that notice of the Wheeler Wilson principle and the Singer principle, and it was brought forward by the other side.

That being so, in my opinion we have no representation made or anything done which naturally makes a representation to the buyers from the defendant that the goods which the defendant sold were made by the plaintiff company; and in my opinion, therefore, except as regards the label, the case fails. To that the defendant has submitted.

Now I will say one word upon that. It was urged that, having regard to the admitted wrongful use of that label, we ought to uphold that everything else done was done *mala animo*, and was fradulent. In my opinion, that would be wrong. I should be prepared to hold that the label could not be used, but in my opinion it would be wrong to give to these documents and to the representations contained in them that which, in my opinion, they did not justify and naturally bear, simply because at the time the defendant was issuing these documents he had done something which, as against the plaintiffs, was wrongful. We cannot, in my opinion, construe these documents in the absence of any fradulent intent or uses of those documents by the reflected light of the use of that label.

Now there is one other matter which I must mention before I conclude, and that is, the cases which have been referred to. I think if it had not been for the case in the House of Lords, this case would probably hardly have taken the time which it has done. There are two ways in which that case was urged upon us; but the decision, in my opinion, has no bearing on this case. No doubt in moving that the matter should go back again for a new trial, the Lord Chancellor did intimate an opinion that a *prima facie* case had been made out by the plaintiffs to be answered. Some of the other Lords, Lord Blackburn, I think, rather differed from him. No new law was laid down in that case. All that is said there is, that fraud in the act done was not material, if it was calculated to deceive, and I think the Lord Chancellor, Lord Cairns, said something in moving the judgment of the House very like what I have said, that if the natural consequence of all the facts is to deceive, it becomes a wrong and a fraud if, after notice of those facts, a man continues and insists on going on with them; therefore, no new law whatever, as far as I understand, was laid down by the House of Lords in that case.

Well, that being so, we ought not, in my opinion—and I say it with the greatest respect for the House of Lords—to be influenced in arriving at a decision on the question of fact in this case because they, upon the evidence there and the documents there, arrived at a conclusion, at least in the mind of one of the noble lords, in favour of the plaintiffs. The statement was a different one, and it was "Singer Machine" *simpliciter*, and the person who was using that was not a wholesale dealer only, but he was a retail dealer, and it was with reference to that, that a good many of the observations of the Lord Chancellor were addressed. There is nothing, in my opinion, in that case, or in the speeches made by the noble lords, which is in any way inconsistent or at variance with the decision at which we have now arrived. If there had been, I should of course have bowed, whatever my opinion was, to the decision of the House of Lords.

Then there was a case referred to in the Scotch Courts. There the evidence is in no way evidence against the defendant in the present case, even if it were relevant to the issue to be tried. There the judges of the Court of Session laid down as law (though we should not be bound in any way by their opinion), as far as I can see, nothing as law which is at all inconsistent with what we hold to be the law. The facts in that case differing, as they no doubt did, from the facts of this case, ought not to prejudice the defendant's case or influence us any more than the facts there can be received by us any more than the facts there can be received by us as facts here in deciding this case.

The decision, in my opinion, of the Vice-Chancellor, except as regards the label, cannot be supported.

Lord Justice Lush: I am of the same opinion. The question before us is a very simple one, and it ought to have taken a much shorter time than it has. It has been so overladen and obscured by a mass of evidence, and by a line of argument entirely beside the mark, and it has required more than an ordinary effort to keep before the mind what the simple question is. We are not dealing with the validity of a patent. The plaintiffs, the Singer Manufacturing Company, have no monopoly in the manufacture of sewing machines, the patents which they had expired some years ago, and it is now open to all the world to make the identical machines which they make and to imitate theirs in every particular. Nor have they any right of property in the name of "Singer" in the sense in which they seek to use it—namely, in the sense that they can restrain every competitor from using the word "Singer" as descriptive of the kind of machine, however he may qualify and explain it in connection with the use of the word. There is no such thing, to my mind, as a property in a word in that sense. What they have a right to require is that which is common to every manufacturer—namely, that no competitor shall be at liberty to put off goods of his own manufacture as being goods of the manufacture of another. That is the right which they have, and no other; and the question here is, that which has been stated by each of my learned brethren; has the defendant, in his mode of carrying on his business, represented in any way to those who bought his machines, that they are buying the machines which are the manufacture of the Singer Manufacturing Company? If he has, then he is guilty of a fraud towards the buyer, because upon that supposition he has misled the buyer, and consequently been guilty of a fraud towards the Singer Manufacturing Company; because upon the same hypothesis he has deprived them of a customer. But if he has not, it does not signify that he has sold identically the same machine, or that he has put a name upon them which is the same name they use, if he takes care that he does not so use that name or word as to convey to the buyer the meaning that they have been manufactured by the other company.

Now I put aside, as altogether now out of the case, the

metal mark which the defendant once put upon these machines —not I believe upon all of them, but upon some of them. It very much resembled in shape, in colour, and in the position in which he placed it on the machine, the trade mark of the Singer Manufacturing Company. If that had been continued, I think there would have been a fair cause for complaint on the part of the company that persons might easily be misled, by the look of that piece of metal, into supposing that they were buying the Singer Manufacturing Company's machine. But in the early stage of this suit the defendant surrendered and abandoned that and undertook never to use it again. But the company was not content with that; they went on in the endeavour to prevent his using that word "Singer" in any sense whatever in connection with his sewing machines, and that is the question which we have now to decide before us. As I have said, the question is not whether he used the word "Singer," but whether in using that word as he did, he represented, or led the buyers to understand as reasonable persons, that they were buying a machine which had been manufactured by the Singer Company. I can see no evidence whatever, apart from that piece of metal, which I treat as abandoned, because when the case came on for trial it was out of the question, and it is out of the question now, of any intention whatever on the part of the defendant to do that, or in anything which he issued calculated to lead the buyer to suppose he was buying the machine manufactured by this Company. His handbills say expressly that the machines are made by the German house, and that they are made upon the system. They make both what are called the "Wheeler Wilson system" and the "Singer system," which clearly tells those who buy from them that they are not buying machines made by Singer, but buying machines made like the Singer. His price list, which has already been observed upon, makes the same distinction; and, whenever he sells the machines he delivers with the machine this pamphlet entitled "Directions for the use of Frister and Rossmann's shuttle machines on Singer's improved system." How can that possibly mislead any person into the supposition that he is buying any machine actually made by the Singer Company? It expressly states the machines are made by Frister and Rossmann. That was the name of the German house which has since become incorporated in Germany and now has the name of the Sewing Machine Manufacturing Company. That is the name which the subsequent lists and directions bear. The name of the plaintiffs is the "Singer Manufacturing Company." This name of the defendant's company is entirely different; and, moreover, it is always stated as being a German company situate at Berlin. So much for what he does. He takes off the plate from the machine and it is accompanied always with this book of directions, which tells the buyer what he has got—namely, a machine made by the German company. I take the price list because he sells only wholesale, and the buyer knows at once he is purchasing a thing made upon the plan of the Wheeler Wilson and the Singer system, but made by the German company. The invoice has already been observed upon by Lord Justice Cotton. That comes afterwards, and taking that altogether, it has the figure at the top of the German manufactory, and it has the words there which would plainly indicate to a person of common sense that he is buying a thing not made by Singer, but by somebody else.

Then we come to the evidence of the sales in the particular cases. There were only two sales proved, and they were sales to persons sent by the Singer Company to get evidence. They knew perfectly well what they were buying. They were not deceived. Nor is there any evidence that any single individual ever bought a machine from the Defendant upon the supposition that he was buying one of the Singer's machines. Nay, further, it has been argued that althoguh those who immediately bought of him were not deceived, inasmuch as they bought for retail sellers, they might be enabled to represent to their customers that they were Singer's machines. The answer to that is, if they did that they did what he never authorised them to do, because if they sold as they bought, they ought to have given with every one they sold to every customer this book of directions for use. That is supplied with every machine, and there is nothing on the machine itself, the plate being gone, which would lead anybody to suppose they were buying a machine of the Singer Manufacturing Company. That argument entirely fails. Moreover, there is not a tittle of evidence from beginning to end that any single buyer from any agent of theirs bought on the supposition he was buying a Singer sewing machine. Then to my mind the action entirely fails. The learned Vice-Chancellor came to the conclusion, as a matter of inference from the evidence, that there had been such a misrepresentation that persons might be deceived who bought them into the supposition that they were buying Singer's machines. I can only say, that sitting as we do here to review that decision, and sitting here and exercising the functions of a jury, which the Vice-Chancellor did also—if I were in any doubt whether the Vice-Chancellor was right or wrong in that inference, I ought not to overrule it, because I hold that the Court of Appeal has no right to overrule the Judge on a question of fact, unless they are satisfied on the evidence that the inference of the Judge was wrong. Nor ought we to set aside the verdict of a jury unless we are satisfied the jury was wrong. It is not enough to say, if we were sitting on the jury we should come to a different conclusion. Therefore, taking that to be the principle on which we are acting, I come to the conclusion clearly in my own mind that the inference drawn by the learned Vice-Chancellor is entirely erroneous, and that the evidence in this case does not warrant the conclusion that anything which the defendant did connected with the sales of these machines was calculated to mislead the purchaser or anybody else into the supposition that he was buying a machine belonging to the Singer Company. As I have said before, the idea seems to have possessed the mind of the company, and to a certain extent the minds of those who have represented the company here, that the Singer Company had some special prerogative, either in the manufacture of Singer needles or sewing machines or in the name "Singer." I think that is an entire mistake. If any person sold a machine, simply calling it "the Singer machine," then another question would have arisen. Then would have arisen the question whether a buyer at this time would understand by that, that he was buying a machine of the manufacture of Singer, or whether when he was buying a machine the word "Singer" was descriptive of the kind of machine, so as to be likened to "Hansom" in the case of a hansom cab which has been often spoken of, and which is a very good illustration. No man speaking at the present day of a hansom cab speaks of it as a cab made by Mr. Hansom; but he speaks of the kind of cab which bears that name; and possibly the time has come when the Singer machine, if it were called a "Singer machine," might be now popularly understood to mean not a machine made by anybody of the name of Singer or the Singer company, but a machine of the description and kind known as the "Singer machine." However, as I have said, that question does not arise, because the defendant never did sell any of his machines as the "Singer machines."

I would only further observe that whenever that question does arise there is a great body of evidence before us now to show (I do not say it is altogether conclusive, but tending to show) that, at all events at the present time, the word "Singer" has become in popular use and acceptation a word of description rather than a word denoting the maker. That, however, I pass by for the moment. It is enough to say that in this case that is not the question. The question is here, whether the defendant has misrepresented the machines of this company as machines made by Singer. For the reasons I have given, I think there is no evidence at all to justify us in finding that he has.

Lord Justice James: Sir Henry Jackson, you will have to pay the costs up to the time of your putting in your answer.

Sir Henry Jackson: Yes, my Lord.

Lord Justice James: And you will be entitled to have the costs which follow and subsequent to that date and the costs of the appeal.

Sir Henry Jackson: If your Lordship pleases, I will accept that without endeavouring to apportion the costs. It is the whole costs up to the time of putting in the answer.

Lord Justice James: Up to the time of the answer.

Lord Justice Cotton: Up to and including the answer.

Sir Henry Jackson: Up to and including the answer. One

will be set off against the other. Your lordship was good enough to say I might make a suggestion as to the form of the injunction. Will your lordship look at line 19 on page 6 of our statement of defence, and your lordships will see the ample terms in which we submitted to be enjoined "against his using any label or brass plate upon or attached to any sewing machine in which the words 'Singer Machine' or 'Singer System,' or the word 'Singer,' either alone or in conjunction with any other word or words is in any way used, or selling or using any such machine with the word Singer on the above or otherwise affixed thereon or attached thereto." Of course, my lord, I do not wish to recede from that submission for a moment, but I think it goes a little furtffer than what your lordships have imposed on us; but I must leave that in your lordships' hands.

Lord Justice James: Read it again, if you please. It appears very ample.

Sir Henry Jackson: Yes, my lord; "against his using any label or brass plate upon or attached to any sewing machine on which the words 'Singer machine,' or 'Singer system,' or the word 'Singer,' either alone or in conjunction with any other word or words, is in any way used, or selling or using any such machine with the word 'Singer' on the above, or otherwise affixed thereon or attached thereto." And then we submit to an account of profits. My learned friend in the Court below preferred to take the profits in the alternative of accounts. He elected to take profits. He cannot have both; and I suppose he holds to that election still. I do not desire to withdraw from that, I am sure; but I should very much like it to follow the form in the answer for reasons which your lordships will quite appreciate.

Lord Justice Lush: Would that be far enough, Sir Henry Jackson? Supposing the word "Singer" is dropped, but the word "shuttle" is given?

Sir Henry Jackson: That is a trade-mark, my lord. That is their registered trade-mark. We have not done that. It is not averred against us. It is not the practice of the Court to grant injunctions against anything which has not been done.

Lord Justice James: The injunction is only as to using the label and otherwise representing your machines as being the machines of the plaintiff.

Sir Henry Jackson: If your lordships had not put that on me, we should be glad, because we are acquitted from having broken the plaintiffs' right in any way other than to the extent covered by this submission, and we should be very anxious not to have an injunction made against us which would imply that we have done anything more.

Lord Justice James: I do not know that it would imply you had done anything more. Is it not the practice of the Court to hold that where you are restrained from one act—viz., using the label—that that act was wrongful?

Sir Henry Jackson: I should submit that your lordship is now taking it for the purpose of wording the injunction as though there had been an injunction in the terms submitted to and a fresh action instituted a moment afterwards. I take it that is the real position we are in. In the terms submitted to, we are cast; as regards all subsequent matters, we are acquitted.

Lord Justice James: Yes, I think that is so. Then the injunction will be in the very words of the submission?

Sir Henry Jackson: If your lordship pleases; and an account of profits.

Lord Justice James: And an account of profits on all goods sold with that label upon them.

Lord Justice Lush: And the costs of the appeal.

Mr. Webster: The defendant will have the costs below.

Lord Justice James: You will have to pay the costs up to and including the answer, and you will have all the costs in the Court below subsequent to that answer, and the whole costs of the appeal.

Sir Henry Jackson: The one will be set off against the other, and we will have our deposit returned.

Lord Justice James: Is there a deposit to be returned?

Sir Henry Jackson: Yes, my lord; we were ordered to bring in the deposit, that will be handed back. Of course your lordship remembers that it was agreed between us that the costs of the shorthand writer's notes should be divided between us, and be costs in the appeal. That will be included.

Lord Justice James: Yes; you are to have the costs, including the costs of the shorthand writers.

Sir Henry Jackson: If your lordship pleases. It was so arranged.

PROTECTION v. FREE TRADE.

In our last issue we inserted an article on this subject from another American paper. The following, from the *Sewing Machine News*, takes another view of the matter:—

During the Presidential campaign a good deal was said about the tariff, and a strenuous effort was made by certain political leaders to raise it into a prominent issue, but the attempt was a failure. Intelligent people, who understood the question, knew that any attempt at a wholesale abolishment of import duties and the immediate establishment of free trade was utterly impracticable, and that no party, no matter of what political complexion, would dare to take such a step if placed in power. The question was used as a bugbear to frighten those who did not even know what the word tariff meant. Ignorance is always suspicious and sees danger in everything it does not understand.

There is no doubt that this country will in time follow the example of England and institute free trade, which is the true policy of commercial and manufacturing nations. But the step should be gradually taken. It is true that there are many branches of manufacturing industry which have not yet acquired a robust growth and still require the care of government protection; and it is also true that there are very many other branches of industry sheltered under the wing of the tariff laws which have long been out of their swaddling clothes and are perfectly able to take care of themselves in the teeth of the keenest foreign competition. Protection should be withdrawn from these fully developed manufactures. To continue to enable them to exclude foreign goods from the market and thus maintain a scale of high prices, is to confer pecuniary benefit upon a few persons at the expense of the general public, a policy altogether at variance with the Republican spirit of American institutions. Class legislation, which confers exclusive privileges upon a set of individuals, will never be popular in the United States. It will not be many years before the government will levy a tariff for revenue only.

As far as the sewing machine trade is concerned, it has everything to gain and nothing to dread from free trade. In some quarters the fear has been expressed that the raising of the present tariff would damage the trade by bringing in a deluge of cheap English and German machines. A little reflection ought to convince anyone that this fear is altogether ungrounded. In Great Britain sewing machines of home manufacture have been utterly unable to cope with the American articles, although the latter have always commanded a much higher price. So prejudiced is the British public in favour of the American article (the machines made by the Singer Company at Glasgow are styled American) on account of their very great superiority, that the business of manufacturing and selling sewing machines has shrunk to very insignificant proportions, and almost the entire trade has fallen into the hands of the Americans. Such being the case in foreign lands, is it not extremely unlikely that the people of the United States will withdraw their patronage from superior articles of their own manufacture to bestow it upon trashy imported machines, even if they are sold for less money? There are plenty of cheaply made and sold machines now upon the market, but they do not seem to have hurt the sales of the superior and standard goods. It is not at all likely that if the import duties on sewing machines were taken off, that the English and Germans would gain even the slightest foothold for their cheap machines.

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LIFE—Page 34 :—"Life is real, life should be earnest. To be enjoyed, we must have an aim, an object in life; and to be happy, to enjoy life, the object must be one worthy the highest, purest, best part of our nature—men's character so strong and true that they can be relied up; men that wear their lives out, not rust them out; men who live to act, to produce what they consume."

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LIFE—Page 173 :—"The more you think of life, the more you know of the Creator's way of governing the universe, the more you know of your own constitution and the happiness within your reach, the less will you believe that God meant man to be born weeping, to live complaining, and to die disappointed.'"

LIFE—PAGE 192 :—"We have life. What shall we do with it? The world is like a vast manufactory, in which we hear incessantly the clash and whirring of a complex machinery. Shall we try and get the bottom of this? Yes, undoubtedly, earnestly, and fearlessly. Believe me you will thus get to learn that the law maker is behind his laws, and that, paradoxical as it may seem, while He hides himself behind them, He also reveals himself through them. There is no better way of understanding the Creator; the laws are emanations of the all-beauteous mind; they shadow forth the divinity that contrived them; we find the more we study them, greater evidence that there is a Living God, a Father caring for and loving His children."

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JONES AND CO. (LIMITED) v. FERN.

This case was tried before a jury. Mr. Wildey Wright appeared on behalf of plaintiffs, sewing-machine manufacturers; and Mr. Cooke, barrister, represented the defendant, the lessee of Norfolk House, Stepney-green. Plaintiffs sought to recover £32 15s. 5d., damages for being deprived of certain goods, for damage to the goods, and for ejectment from certain premises. Plaintiffs entered into an agreement with defendant to take a shop and part of the basement at Norfolk House, described as a large building devoted to model lodgings in the upper stories and to shops and basements in the lower portion. The basement was not ready when plaintiffs took possession, and it was arranged they should use a back room in the house until the basement was completed, and they accordingly placed their machines and other goods in that apartment, and continued to use it from June to September. On the 17th of the latter month defendant, as alleged, informed plaintiffs that the basement was ready, and requested them to remove their goods thither as he required the room for a new tenant. Plaintiffs alleged that the basment was not in a fit state, and objected to a partition which had been erected in it as an infringement of the agreement, and they refused to place their goods there. On the morning of September 24th plaintiffs found the goods removed from the room and placed outside, with but slight covering, and when the defendant was communicated with he stated the removal was effected without his knowledge. Plaintiffs declined to take the goods, holding defendant responsible, and they remained there until October 14th when the defendant had them removed to the basement. Several witnesses testified to the foregoing statement, the defence alleging that the action was brought in retaliation for an order obtained by Mr. Fern to compel them to pay him for certain work done in the shop. After a lengthened investigation his Honour submitted the question to the jury, who found for the plaintiffs with £5 for damage to the goods, and £10 for breach of agreement. A discussion ensued between counsel as to the effect of the verdict, and it was eventually decided that plaintiffs were entitled to £27 for retention of the goods, that amount to be reduced to £15 if the goods are returned. At the request of Mr. Cooke his Honour made a note of counsel's objection to the verdict on the ground of want of evidence as to damage, value, and loss from detention.

DAVIS'S EXCELSIOR KNIFE CLEANING MACHINE COMPANY (LIMITED) v. ARCHER.

This was an application by the plaintiffs to restrain the defendant from affixing to a mincing and sausage machine the words, "Prize medal, Paris, 1878," or from representing or holding out to the public by means of cards, circulars, or otherwise that he was awarded such prize medal. It appeared that both parties had stalls at the Agricultural Hall, and that the defendant was the inventor of the machine in question, but at the time when the prize medal was gained was in the service of the plaintiffs, and manufactured machines for them. Mr. C. H. Turner was for the plaintiffs; the defendant appeared in person. His lordship observed that the conduct of the defendant arose from no *mala fides*, but from some misapprehension, and it was arranged that upon the defendant giving an undertaking not to use the words in question there should be an end of the action, the plaintiffs paying their own costs.

HARPER TWELVETREES v. TAYLOR.

This was an action to recover the price of a machine sold by plaintiffs, washing machine makers, to defendant, whose wife appeared and stated that her husband attended the Court on a previous occasion, but was now on his way to America, having left the day previous to the service of the summons. She denied that the money was owing. It was stated on the part of plaintiff that the husband admitted the claim before he went away. His Honour adjourned the case for three months.

THE SINGER SEWING MACHINE COMPANY v. THOMPSON.

This was an action in the Bow County Court, on Dec. 13, by the plaintiff company to recover of the defendant, a pawnbroker, of Jodrell-lane, Hackney, the sum of £13 15s., the value of two sewing machines and one stand, detained and converted to his own use.—Mr. Walpole, barrister, appeared for the plaintiffs; and Mr. Parnell, solicitor, for the defendant. —Plaintiff's case was that they lent a Mrs. Sullivan two sewing machines upon the usual agreement that she paid 2s. 6d. a week for each, and in the event of her paying that sum regularly until she had paid their value she became the owner of them; but, on the other hand, if she neglected to pay the money, she forfeited any instalments she had paid, and the plaintiffs had a right to reclaim the machines. Upon the two machines she paid £5 9s. 6d. and then disappeared, taking both the machines with her. Subsequent inquiries led to their finding the machines in the defendant's possession, and Mr. Baker, the manager of the plaintiff's Hackney establishment, went to the defendant and demanded the machines, but he said he had purchased them, and they were consequently his property. He was told under what terms the machines were let out, and defendant then said he gave £2 5s. for the two machines, and if plaintiffs liked to give him £2 10s. he would let them have them.—For the defence, Mr. Parnell said the machines were bought at a fair price, not from Mrs. Sullivan, but another person, and he contended that he was entitled to keep them, notwithstanding the agreement between the plaintiffs and Mrs. Sullivan.—His Honour said it did not matter who the defendant purchased the machines of, or what he gave for them. The plaintiffs had traced them into his possession, and they had a right to claim them as their property. —Judgment for the plaintiffs; the money to be paid in a week unless the machines were delivered up within that time.

DAVENPORT v. WILKINSON

In the County Court at Northampton, Mr. Arthur Davenport, silk mercer, Leek, Staffordshire, sued Messrs. J. and T. Wilkinson, sewing machine dealers at Wellingborough and Norwich, for £38 13s. 6d.—Mr. Palmer for the plaintiff, and Mr. Hensman for the defendants.—The original order supplied to Messrs. Wilkinson in March and May last was £53 8s. 6d. The plaintiff alleged that the goods were supplied at a month's credit, and the defendants claimed that two months' credit was given at a reduction of £5 per cent.—The defendants admitted that now the claim was due, but contended that at the time the action was entered it was premature.—The judge suggested that the matter should be settled out of Court; and, after a consultation of counsel, it was settled by consent.

THE Franz & Pope Knitting Machine Co,, of Bucyrus, Ohio, has been in operation since 1870, during which time they have turned out 10,000 knitting machines. The company also turn out about £10,000 worth of socks a year, using 46 of their machines, each with a capacity of from three to seven dozen pairs per day, much depending upon the size of the leg-cover and the skill of the operator. All the knitting is done by steam, each machine being provided with a patent belt throw-off, which stops the machine at the point set. A regiment of the circle of little needles is then set, and by a few turns of a hand-wheel the heel and toe are knitted, and the sock is ready for the finishing touches.

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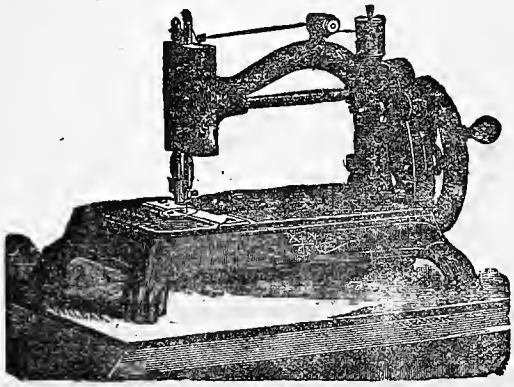

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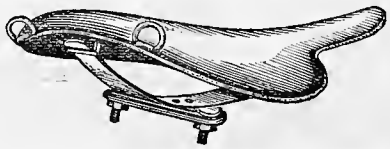

C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

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Comprising its History and Details of its Construction, with Full Technical Directions for the adjusting of Sewing Machines.

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The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

THE Court of Appeal have confirmed the judgment of Vice-Chancellor Bacon in the cause of the Singer Manufacturing Co. *v.* Loog, to the following extent—the defendant is prohibited from "using any label or brass plate upon or attached to any sewing machine in which the words 'Singer Machine,' or 'Singer System,' or the word

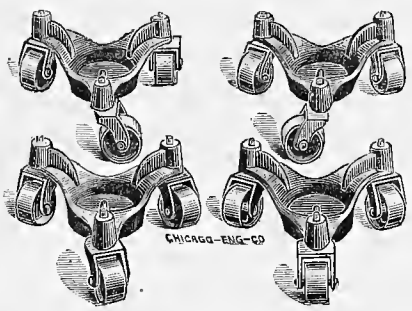
'Singer,' either alone or in conjunction with any other word or words is in any way used, or selling or using any such machine with the word Singer on the above or otherwise affixed thereon or attached thereto;" but they have given him liberty to use the word, if he pleases, in such other ways as may not deceive the public. It might occur to an ingenuous mind to enquire in what possible way one person can use the name of another in selling his goods *without* deceiving the public, or why he should wish to use it at all unless his aim and intent was to deceive them. To such a mind the natural question would arise—why does Mr. Smith, if he is honest and fair in his dealings, want to call his goods by the name of Jones or Robinson? Why can't he say plainly "these are Smith's; I make them and I call them by my own name, and not by that of my rival in trade, who also makes goods of a similar class"—this would be straightforward and intelligible, and, as we believe, would pay best in the long run. But for the moment we will leave this common-sense view of the matter and see how far the law, as laid down by the learned judges in the Court of Appeal, adapts itself to the exigencies of ordinary commercial life. Lord Justice Cotton lays it down that a trader has a perfect right to gain what benefit he can from the credit and advertisements of others, and from the course of business which they have adopted, if he does not do so in a way calculated to mislead. Truly, there is much virtue in an if. According to the learned judge, A B may spend years of toil, and large sums of money building up a reputation for his goods at great cost; he may advertise them to all the world, and create such a demand for them that the very name by which he has designated them has become a household word; he may jealously guard his legal rights by every means in his power, and yet it shall be perfectly open for C D to say, "I also manufacture these goods which have attained such a celebrated character for excellence of material and superiority of workmanship. I choose to call mine by the same name, because I believe the name will help to sell them, and because my rival has made this name famous by dint of an enormous outlay for advertisements, and by the strictest attention to the manufacture of his articles." This may be lawful, but simple-minded folk have only one name for persons who would so act. It certainly appears to our limited comprehension that Vice-Chancellor Bacon was a great deal nearer the common-sense view of the subject when he said in his judgment: "I take it to be very old law that a man's trade mark is his property, and I do not know that his trade name differs in the character of property from his trade mark." Then again Lord Justice James declared that the word "system," as applied to sewing machines, has, to his mind, a very intelligible meaning, and that consequently Mr. Loog was justified in describing his machines as manufactured on the "Singer System." Vice-Chancellor Bacon says that "Nobody can say there is anything like an approach to any principle. There is a principle of the needle and shuttle which everybody can understand; but after that there is no more principle than there is in a watch. The only principle in mechanics is to overcome the resistance by means of mechanical appliances. That is done by the needle and shuttle, and nothing more than that is done. The commonest bricklayer's scaffolding is just as much an invention or principle or system as that which was applied by the plaintiffs in this case," which certainly appears to us a great deal nearer the correct version. Again, Lord Justice James is of opinion that a seamstress in want of a sewing machine would be "as ready to detect any sign of spuriousness as a bank clerk who has been in the habit of dealing with such matters would be to detect whether a sovereign is bad or not, or whether a bank note is a forgery." Would Lord Justice James be surprised and shocked to learn that very many of the best machine hands can scarcely read or write; that they have to depend in the selection of a machine not upon its form and appearances, but chiefly upon what they are told at the time of purchase? Putting a brass label upon the imitation machine, with the word Singer stamped thereon, is not half so calculated to deceive persons of this class as the bold statement of the person selling—"This is the thing you are asking for; this is a Singer machine." The words on the label they may or may not be able to decipher, but the words of the salesman they hear, and are influenced by; and if these words are not true, or only partly true, then the axiom of the Poet Laureate comes in that "a lie which is half a truth is ever the worst of lies." It was probably an oversight, but we think the counsel for the plaintiff company did not attach sufficient importance to the evidence of those trade witnesses who were questioned at the trial as to what was the meaning conveyed to their minds by the name of the manufacturer when used to designate any particular machine. It will be remembered that several witnesses of this class were called on behalf of Mr. Loog, and when cross-examined by Mr. Aston they deposed as follows:—Mr. Edward Todd, a wholesale dealer of many year's standing, says: "By the term Carver's machines I should understand machines made by Mr. Carver, and by Kimball and Morton's machines I, as a buyer, should understand machines made by Kimball and Morton." And again, Mr. John Chapple Blomfield says, after a very considerable amount of fencing about, "I should understand a Sellers and Allen machine to mean a machine made by Sellers and Allen; and a Bradbury machine would mean a machine made by Bradbury and Co. If I speak of Jones's machines or Bradbury's machines, or Sellers and Allen's machines, I mean sewing machines made by those respective firms." It was rather hard work to bring all this out of the gentleman's mouth, because he could see where it was leading to. But it came out at last, and without doubt faithfully represents what the public mean when they ask for machines of any particular maker. Suppose the usher of the court were instructed to obtain some Fry's chocolate for the luncheon of the Lords Justices, and he were to gravely inform them that he had bought them Fry's chocolate made by Cadbury or Epps, we fancy there would be an advertisement for a new usher without delay. There was, on the defendant's side, an argument which used to be urged with the utmost emphasis and gravity, to the effect that, if the Singer Company obtained the injunction they sought, they would adopt such a course of arbitrary proceedings against all the other members of the trade that business could not be carried on at all; that they would frighten, and harass, and intimidate all their rivals in business, and endeavour to obtain a complete monopoly. It is eighteen months ago since Vice-Chancellor Bacon gave the judgment which was to place such tremendous power in their hands, and we should like to know who has been frightened or harassed, and whether, in fact, the trade has not been in a far healthier state than it had known for years. Piracy of trade reputations was no longer carried on with impunity, but every fair trader had a chance to make a reputation for himself with the belief that when he had so made it, it would be his own, and might become a legacy to his children. The Lords Justices having given their decision that some of the acts complained of were not illegal, although others confessedly were, nothing remains but to await the final verdict of the House of Lords, and all that the English sewing machine trade can do in the meantime is to prevent as much as

possible their trade being ruined by unfair competition, and to keep what reputation they may have acquired by every means in their power. Our course, as the Editors of the Trade Journal, is a very plain and simple one, for, while according the utmost liberty of discussion to both sides of the question, provided that discussion be carried on in a courteous spirit, we do not intend to recognise in any way the principle of describing the machines of one maker by the name of another, and by that determination we, as journalists, will stand or fall.

WE may fairly congratulate Mr. Hunting, the esteemed manager of the Wheeler and Wilson Manufacturing Company, upon his very narrow escape from service as a juror in the Crown Prosecutions now being tried in Dublin. Mr. Hunting's name was among the first list of names selected by ballot, and when that number was reduced to twenty-four he was still on the list. However, he does not figure among the twelve finally selected—and we think he has plenty of reason to be thankful—for a more disagreeable task than to waste a month of enforced attendance over an Irish State Trial we can scarcely conceive.

HARPER'S PATENT CASTER.

Amongst American novelties recently brought to our notice we may mention that of an improved caster, for which letters patent have recently been applied for by Mr. J. M. Harper, of El Paso, United States of America (as a communication to G. F. Redfern, of 4, South-street, Finsbury), and which caster the inventor claims as supplying a long-felt want. It will be seen, by reference to the illustration, that the caster consists of a cup-like platform for receiving the leg of a stove, sewing machine, chair, table, or any other article with feet; such



platform having three radiating arms, each resting on a small roller. The advantages claimed for this caster are that they can be used under any article with legs, as above described, no matter how heavy, as well under one with only three legs as one with four; that one person can adjust them; that they can be used for moving any heavy article. They are cheaper than any other, and are very durable. Samples of the casters may be seen at the office of Mr. G. F. Redfern, 4, South-street, Finsbury, London, who, we are informed, is Mr. Harper's agent.

WANTED, a few Copies of the FEBRUARY NUMBER of the "SEWING MACHINE GAZETTE" for 1880. One Shilling per Copy will be given.—T. B., care of the Editor, "SEWING MACHINE GAZETTE," 11, Ave Maria Lane, E.C.

SEWING MACHINE COTTONS.

We have received from the Charles-street Mills, Leicester, various samples of Raworth's celebrated cottons, and after a fair trial find them to be everything desirable. The nine-cord is the very best article of sewing cotton in the world. On samples of it being submitted to her Majesty, she was graciously pleased to confer upon Mr. Raworth the title of "Manufacturer to the Queen;" a copy of the authority we have seen. The six-cord soft cotton in white, black, and colours, is suitable for every kind of sewing machine, and unsurpassed in excellence. One of the specialities is an article in cotton for use instead of silk; the consumer pays 2d. for a reel of silk containing fifty yards, while this article can be bought on reels containing eighty yards at 1d. each. It is specially adapted for use in all cases where silk is used, to which it is superior in strength, dye, and finish; it will retain its colour and wear as long as the fabric it is used upon. Mr. J. T. Raworth is the inventor of the machine by which the cotton is so evenly and beautifully laid in rows upon the reels. This machine, the result of long study and great expense, having been completed, Mr. Raworth sought no restrictive patent or other selfish monopoly, but allowed it to be freely used by his competitors and the trade generally, thus granting and securing a cosmopolitan advantage to every user of sewing cotton.

THE HEBERLING RUNNING-STITCH SHIRRING MACHINE.

This machine is better known in America than here. We have seen one at the offices of the Willcox and Gibbs Sewing Machine Company, Cheapside, and are decidedly of opinion that they have a "good thing to handle." It makes most effective and beautiful trimmings, suitable for the present fashion. It is claimed to be the only machine in the world which will sew a perfect running stitch in exact imitation of hand work, and will make 5,000 stiches per minute. In appearance, it is not unlike a sewing machine; but upon examining its modus operandi, the difference between the two is quickly discernible. This one machine can accomplish more work in a given time than twenty persons could do by hand. One or two needles can be used, make one row, or two parallel rows, at the desire of the operator. The motions are all rotary, running free and noiseless. As they make the regular hand running-stitch, the threads can be drawn so as to make the shirring either full or scant. These machines are adapted to all grades of work, from heavy velvet to the most delicate tissues.

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REVIEWS.

With the new year Mr. Platt has issued another of the series of books, which, commencing with "Business" in 1878, was followed by "Morality" in 1879, and by "Money" in 1880. We are inclined to think these essays improve as the series goes on, and that *"Life" is thus far the best book which Mr. Platt has produced.

One of the most surprising things to us is, however, the author who is at the head of a very large commercial undertaking which one would think must severely tax his energies—can find time to consult all the authorities referred to in this volume, and having consulted them, to reduce the result of his study to such a compact and interesting book as that before us. Mr. Platt deals very exhaustively with the question which has been raised of late by a special school of thinkers, "Is life worth living?" only, unlike them, his answer is distinctly and unhesitatingly in the affirmative. Thus in his introduction he deals with the matter in the following terms:—

"Life not worth living! To say it is to give the lie to all things in heaven and earth. It is an expression that annihilates all hope; as if humanity, in death-like trance, were adjudged dead by those who felt its pulse. Why is it? Because, as the warrior of whom it had been asked, 'In what do you believe?' promptly answered, 'In myself,' so the people of our day, when the question is put to their inner souls, when they ask themselves this important question, when they have to reply to their inner consciences, 'In what do you believe?' answer, 'In nothing.' Their lives seem as a sad tale of youth passed among the 'fragments of a broken world,' of a spring-time of life with all the desolateness of autumn; human illusions lying around like fallen leaves; the sunbeams no foretaste and pledge of summer's passionate warmth, but mere chilly harbingers of winter, as they struggle through the silent world—

Bare, ruined choirs, where late the sweet birds sang.

Life not worth living! Imagine yourself dying, not by a painful or lingering disease, but whilst in good health, say by drowning! how you will struggle then for your life! how you will love it; how sweet and warm and full and fresh it will seem! how cold the river, and how undesirable a *speedy release* from the pomps and vanities of this wicked world! And when, after all hope seems to have gone, you are saved, how naturally you utter—oh, so thankful for life then—'Thank God! thank God!' You may take it as an axiom that if men are sick of life, it is because they know and feel in their souls they have themselves to thank for it. The reflection does not add to the delights of a man's position when he is humbled to the dust. On the contrary, although he may realise the justice of the punishment, nothing ever can, nothing ever will, make 'biting the dust' taste anything but dry, bitter, nauseating to the last degree. But such men realise better than others that 'life is worth living.'"

As Mr. Platt very clearly shows, much of the dissatisfaction with life as it comes from the folly and sin of those who do all they can to waste and spoil their lives rather than elevate and improve them. Thus he says, "Life intolerable, why? because people with one thousand a year would like to spend two—yet there are an immense number who find life enjoyable with only £100 or £150 a year. Happiness does not depend upon one's income. Poverty need not degenerate into ugliness or misery. Affection will brighten home with a rose bush planted here, a bunch of violets there, life sweetened with sympathy, so that industry and thrift are encouraged, and the one 'home' made much more enjoyable with £100 a year than the other with £1,000, if the £100 be blessed with a wife that is a real 'help mate' and the £1,000 be cursed with one of that large and increasing class that only think of 'dress,' and whose whole talk is of the 'latest novelties,' the new things they have got since they saw you last, and who value the same by their cost; home and wifely duties neglected, sacrificed to 'dress' and 'visiting,' never happy unless out or entertaining at home. Marriage is one of the most important steps in a man or woman's life. The future of both will be so peaceful and joyful if perfect confidence exists in each heart; so full of trouble and pain if deception be practised on either side, or any incompatibility of temper or disposition has from selfish reason or to gratify a passing passion been overlooked. To marry when you cannot freely love and respect is to commit an act of dishonesty and injustice. Yet how few women really marry from love—how many because they are asked, and because their friends think the marriage is suitable. It is frightful punishment to lead a loveless life; still more so, however, for man or woman to meet the right party when too late. One can understand the poor unfortunates thinking, 'Life is not worth living.' Life then becomes a perpetual punishment. 'Why were we ever born?' must be daily asked when too late. So it is with all wasted lives. Time, ghostlike, glides by us invisible; unseen amid the glare and turmoil of the day; but in the gloom and silence of the midnight hour he stands revealed, and with one hand points mockingly to the wasted, marred past, and with the other towards the future, he whispers in the lonely hour into our ears, the startling, fateful word, 'Eternity.' Be as hardened as you may, possessed of an iron will, time will conquer. The misery of hypochondriasis, of remorse, will inevitably master you; you will lose the zest of life, and feel ever on the brink of a precipice, to the unknown depths of which you will have one day to descend. Lead a true life; begin the work of repentance, of reparation, at once; get free from your false position; be honest and true to your higher nature; strive once more to get a healthy turn of mind and body, a sure sign of which is a feeling of thankfulness that you exist, a freedom of morbid discontent, replaced by one of heartfelt thankfulness to the Author of all for your existence, an inward consciousness that 'life is worth living.'"

This is very practical, earnest writing, and goes to the root of the matter. So many lives that began full of hope and promise have become withered and ruined by extravagance, by improvidence, and by idleness, that it makes one very sad at times and almost tempted to ask in a desponding mood, "Are such wasted lives as these at all worth living? Had it not been better for such as these if they had never been born? So helpless, so purposeless, so miserable, so lost!" Mr. Platt manages, however, to draw comfort even from this dark side of things, for he says—"Life will be very different once we get the people to realise as an indisputable truth that there is never anything wrong but what has been done by ourselves or others, and that the wrong remains so long only as we refuse to put it right. With such a thought to guide us, the future would cease to be dark. We should anticipate its difficulties, but never think of its perils. The only doubt a man should feel, is whether he is doing what is right, and trying to the utmost of his power to repair wrong; and never to do that at one time which in another he will look back upon with loathing; and so patiently and persistently struggle out of the fetters of humanity into the freedom and liberty of being a son of God, patiently and contentedly doing the work before him, with the divine insight to perceive that in every lowliest lesson of a life the soul expands and grows alive, and all are drawn nearer unto God. Do not be misled by those who argue that because "the larks do not make their own singing, therefore mortals do not make their own sighing.' We do, and must make great efforts to let in a joy that will slay the grief-monster. Exercise your power of thought, and you will soon realise that the suffering which puzzles so many of us often leads to valued good, and when properly understood you will find that suffering exists for reasons of the highest, purest, and kindest import, such as when understood must be absolutely satisfactory to the sufferers themselves. Man has the power to discover causes and to remove the ills that flesh is heir to. It is a grand birthright, this power, this free will."

In the chapter entitled "Is life worth living?" Mr. Platt has a very beautiful passage descriptive of the pleasures of nature and natural scenery which we are sure our readers will thank us for drawing their attention to. We have taken the liberty to quote the entire passage:—

"Life is very enjoyable in the early spring when the first heralds of the returning youth of the year meet us from all sides in the guise of odours—not yet those of flowers, but the more ethereal, if less sweet, scents of bud and grass, and even pure earth moistened with the waters of heaven—those months

* "Life," by James Platt. Simpkin, Marshall & Co., London.

so glorious to us because of the return of the sunshine we have not had for some time; April, with its sudden showers that turn every twig into a jewelled sceptre, every branch glistening as if covered with diamonds; the month when the birds pour their thrilling music from every bush and shrub and tree; the month when Nature has sown every hank and hedgerow with many-coloured wild flowers, and, lavish of her sweets, her beauties, her melodies, has, in the joy of her perennial youth, shared them freely with her lovers. How very beautiful the world is when the mind is at peace, and can appreciate a glorious evening in July or August! What a luxury it is to walk along the beach, the sun setting in the distance, and the eyes fixed upon the sea, near the little coves with jutting headlands, the tint upon their slopes looking yellow beside the clear emerald of the sea beyond the stony beach—in the distance there where the waves ride white-plumed in from the far-off blue! The pleasure is intense after a walk out among the great loose stones of the beach, to seat oneself upon a huge boulder under some towering cliff, and gaze out to sea in a long, rapt gaze, watching everything around, determined to enjoy thoroughly what one sees, and not let the thoughts go farther as yet; watching the sea, so beautiful as the foam splashes on its shining green, whilst further out the scattered rocks rise from the blue into which these shifting shades of green blend so beautifully, and you hear the billows break over them so softly, covering them with a high canopy of spray, which, dissolving instantly, like mist before the sun, leaves them decked with fairy waterfalls. It is great pleasure to sit and watch the sea, listening to the murmuring roll of the waves upon the beach, a sweet, dreamy music—that rhythmical undertone of the murmuring waves. Ah! if we would but use our eyes, scenes daily would remind us that Nature is God's handiwork, and the more we appreciate Nature in her full and rich perfection, the more comfort there will be for the soul in loving Him who made it."

Coming to the practical matters of every day life, in which he deals with such matters as co-operation, interest, education, &c., Mr. Platt is very severe upon Mr. Ruskin and others of his school who have lately propounded such extraordinary theories about the rights and abuses of money. Mr. Platt says:—"I see no hope of a better future until the rights of private property are sacred, not by the protection of law, but from a belief in the minds of the people that the man who earns and saves what he can, has as much a right to it as he has the right to breathe, to be in health, to be virtuous. It seems incredible that educated men like Mr. Ruskin, in their zeal to stigmatize interest of money, can go so far as to give it as their opinion that a loan of £100 is *completely and justly* repaid by twenty instalments of £5 each at any distance of time. So positive is Mr. Ruskin of his views being right that he boldly asserts that time makes no difference, that £5 *in present money is no more valuable than £5 to be paid ten years hence.* What difference is there between Proudhon, who asserts that property is theft, those agitators who claim for tenants to pay what rent they think fair, or 'not any,' as 'rent' is only another name for interest upon money that has been spent in the purchase of land, or in building of a house; and Mr. Ruskin, who calls interest a fraud and immorality? Under the pretence of morality and benevolence, these men do a vast amount of mischief in stigmatizing as immoral a bargain made between two men who know their own wants and the value of the article they are borrowing. To say the action of borrowing is not a voluntary one is begging the question; the great bulk of borrowing is by merchants and tradesmen who know the value of the loan; men who would scorn to receive the loan as a charity; men who wish to pay the banker his just equivalent. For these dreamers to insist that the borrower ought not to pay for the benefit received is an offence not only to the lender, the banker whose trade it thus wantonly and recklessly insults, but also to the borrower, the merchants and traders, whose application it strives, as do all these philanthropic schemes, to turn into the plea of a distressed unfortunate entitled to relief from the more fortunate. The only excuse for such opinions is that the authors of them entirely lose sight of the world as it is—the enormous amount of borrowing that goes on to-day—and the value of being able to borrow at so low a rate of interest." This is strong language, but, as we venture to think, not a jot more severe than just. Practical questions of this kind can only be properly dealt with by practical men, and Mr. Ruskin—splendid genius though he be—is at times one of the wildest of visionaries, especially when he ventures into the domain of finance.

The chapter on marriage is full of most excellent suggestions. Take the following as an example:—"A true wife is her husband's second self in thought and sympathy and action; and those women who live with men, but never mingle their souls with theirs, may be their husbands' legalized encumbrances, but are not their wives. I am well aware there are wives who are the 'sunshine' of the house, the loadstone that keeps the man earnestly at his duty, the magnet that with a 'loving smile' and evidences of careful thought for his comfort welcomes him home. I care not what station of life such couples occupy, they are rich in that great wealth of being happily mated. Contrast the picture with its opposite: the man struggling on as the bread-winner for wife and children day after day, year after year, simply from a sense of duty; no loving smile greets him, no pleasant word, not a smile week after week, year after year, very little speech except to complain and grumble. Duty, or ambition, aye, and conscience, too, need be strong with such men to keep them to their life's work, and their lives free of sin. We often blame men (and women too) for lapsing into drunken habits or a vicious life. The cause might generally be traced to a couple not adapted for each other, but legally yoked together, and who, unfortunately for themselves, do not make the best of a bad bargain. 'Every wise woman buildeth her house, but a foolish woman overthroweth her house with her own hands.'"

Or again, "It is the unhappy chance of many men, that, finding many inconveniences in the mountains of single life, they descend into the valleys of marriage to refresh their troubles, and there they enter into fetters, and are bound to sorrow by the cords of a woman's peevishness. Of the majority it may be truly said, 'they marry in haste, and repent at their leisure;' the one must follow the other. If we can get people to think more of what marriage is, so as to be more careful and be resolved to feel their way, in fear of taking a leap in the dark, we shall be taking the first step to a general social progress. A married man is considered more reliable, because he has given a hostage to society, as it were, for his good conduct; but if we could ensure a more happy, contented married life, society might depend more securely upon its members. To have the married lives of our people a 'success,' is to ensure a happy future for our people. The struggle for existence makes us all look out for chance of profit; but no one thinks it worth while to strive for a happy existence, because, as a rule, we start on the journey of life predisposed to think 'life' is a curse, a burden to be borne, full of trial, and under that mistaken, nay, mischievous and erroneous idea, that 'God loveth best those whom He chasteneth the most.' Whereas it is really the contrary, 'God blesses those who do His wishes and obey His laws,' and in nothing is this more apparent than in the married life."

Match-making mammas will do well to ponder the following. "We are told that 'a mother's highest duty is to secure a good position for her daughter'—a most revolting dictum, and amazing to hear from any mother in relation to her child. Yet if the poor creature, as is too often the case, in their marriage without affection on either side, commits an act of imprudence—if she cannot be virtuous, when virtue is made so easy and so gilded, the mother and society are not blamed, but only the poor victim who finds the human passions within her that her parents have ignored too strong for her to control. And the world seems astonished at such lapses, that men and women should not be content with their position and its compensations, forgetting the punishment that will inevitably follow from such an outrage of the Divine law."

In the concluding chapters of the book, Mr. Platt travels somewhat into the region of theological controversy, dealing with such vexed questions as original sin—future rewards and punishments and the like—he says that he expects many theologians will dissent from the views he expresses; his object in dealing with these questions, he tells his readers, is to strengthen their belief in the existence of a Creator. Here is a statement which none we think will object to. "The essential point is for mankind to understand that all misery arises from man's ignor-

ance or neglect of the laws of God. That therefore, instead of directing our attention for man's happiness so exclusively to thoughts of another world, it is our duty to better understand the world we live in, and that although the magnitude and extent of our social evils seem to render them unmanageable, what is really wanted is the earnest desire by our teachers to remove them. The first thing is to discern what is right and wise to do. Whether to punish for drink or forbid drink, or to establish clubs and supply cheaply cheerfulness and comfort to the masses, to tax liquors and cause them to be adulterated, and the pernicious influence to madden those who take them and make them crave for more, or leave the liquor traffic free as any other, and only interfere to punish those who poison wholesome drink; to let the people grow up like pigs in our midst and then punish them for every misery that humanity suffers; point out the remedy, and then build up a future very different from the present or past. You must have faith, you must make the people have faith, but once give them the right belief, faith must come, hope will help, we shall cheer and sustain each other; and although it will take generations to undo the errors of the past, remember the contrast between the countless influences that have been working previously in the wrong direction, and the cumulative operation of each step in the right course; and how every stronghold of error, folly, or vice overthrown, exposes, weakens, and undermines every other, and so press on; never despair; the goal in time must be reached, and the disordered constitution, whether diseased, criminal, or defective, which now spreads and propagates so much moral mischief, shall have become terminative; when a sounder system of education shall have prevented the too early awakening of natural desires, when more rational because higher and soberer notions of what is needful and desirable in social life, a lower standard of expenditure wiser simplicity in living, shall have rendered the legitimate gratification of these desires more easy; when little in comparison shall be needed for a happy home, and that little shall have become generally attainable by frugality, sobriety, and toil."

We think we have given enough to make our readers desire for more. The book, all through, is carefully compiled, entertaining, instructive, and full of suggestive thoughts. Mr. Platt thus concludes: "Reader, *Au revoir!* Press on, impatient to perfect thyself, to be able to appreciate life's beauties, to feel that, however humbly, you are working with your Creator, omitting no means to make yourself better acquainted with the divine government of the world, and utilizing your time and intelligence for the good of society—never despairing, because of the faith within, that you will be sure to receive the reward you have earned by the faithful use of the talents entrusted to you."

We hope he may live to write many more books, equally valuable and entertaining.

Under the title of * "Industrial Curiosities," Mr. A. H. Japp has collected a number of very interesting papers on subjects connected with commerce and manufactures which have appeared from time to time from his pen in "Good Words" and other periodicals. The industries with which this journal is more intimately connected come in for a good share of Mr. Japp's attention—thus we have chapters on "Needles," on the "Sewing Machine," on "Leather," and on "Indiarubber," to say nothing of chapters of more general interest, as, for example, "Clocks and Watches," the "Post Office," "Locks and Safes," "Through Traffic," &c., &c.

The book bears evidence that a very large amount of time has been occupied in collecting the materials necessary for its compilation, and that the writer of it goes about the world with his eyes wide open. His chapter on "the Post Office" is especially interesting, and even amusing. His statement that in the year 1877 nearly 28,500 letters were posted without addresses, does not say much for us as a nation of shopkeepers, neither does the fact that 757 of these letters contained an aggregate of £214 12s. 5d. in cash and bank notes, and £9,088 11s. 11d. in bills of exchange, cheques, &c., prove that we are not such careful people as we sometimes suppose ourselves to be.

The chapters which deal with the leather industry are the result of visits paid to some of the principal manufactories in Bermondsey, and will prove full of interest both to those in the trade and to the general public. The whole book is very interesting, well got up, and copiously illustrated.

* "Industrial Curiosities—Glances here and there in the World of Labour." By Alexander Hay Japp, LL.D.: Marshall, Japp & Co., London.

Those of our readers who have to do with either the manufacture, sale, use, or repair of the sewing machine will find Mr. Urquhart's little book* of very great value to them. This work is divided into two sections, and then subdivided into chapters. The book opens with a short history of the sewing machine, giving biographies of Elias Howe, junior, and Allen B. Wilson, and then passes on to deal with the inventions of Mr. Gibbs. In Chapter II. we have given us the "elements of stiching mechanism," which is then followed by other chapters giving lengthy technical descriptions of shuttle machines, rotating-hook machines, and single thread machines. Some valuable information is also given in reference to the proportions of needles and thread. Section II. of this work gives directions for adjusting, testing, and timing the various types of sewing machinery, including Wheeler and Wilson, Singer, Grover and Baker, Little Wanzer, and Weir. In order that the technical directions and instructions may be more clearly understood, the book is illustrated throughout with explanatory diagrams.

The author has not entered into or tried to answer the question, Who was the first inventor of the sewing machine? but has been content to leave the past almost alone and deal with the machine in its present state. The book is undoubtedly practical, the author thoroughly understands his subject, and we can confidently say that it will be the means of enabling many to understand better, and therefore work better, the machines they use.

* Sewing Machinery, by T. W. Urquhart, C.E. London: Crosby, Lockwood, and Co.

HOW TO ADJUST THE "WHITE."

The following instructions for the adjustment of the "White" Sewing Machine have been furnished to us by the White Company, of 19, Queen Victoria-street, E.C., and may be relied on as accurate in every particular:—

Aside from the adjustment of all its friction surfaces, there are but few parts of the "White" susceptible of adjustment. In case the machine should be taken apart to clean, or for any other purpose, we deem it advisable to mention the parts that might be replaced wrong by an inexperienced person.

1st. The heart is attached to the needle-bar by means of two screws that admit of the heart being raised or lowered on the needle-bar. To ascertain the proper place on the needle-bar where the heart should be fastened, move the needle-bar until its lower end on the lower downward stroke will be seven-sixteenths of an inch from the needle-plate: when in that position, fasten the screws firmly against the needle-bar.

N. B.—Great care should be taken while adjusting *any* screw not to apply more power than the screw is able to stand, as breaking off the head of a screw or stripping the thread causes great inconvenience.

2nd. When the machine leaves the factory, the *take-up* is in its proper place, and bears a mark just *even* with the top of the upper screw that holds the take-up to the face-plate. If, however, it should become necessary for an agent to order a take-up to replace one, there would be *no mark* on it, and in adjusting it should be set low enough on the face-plate to keep the thread from the point of the needle when sewing thin goods, but not so low as to allow the thread to lift the shuttle when sewing thick goods.

3rd. To set the Feed Cam: First see that the needle is in

its proper place, viz., up as far as it will go, or so that the shuttle-point will pass about one-sixteenth of an inch above the eye of the needle; then turn the feed-cam on the shaft until it occupies a position whereby thick goods can be sewed with a long stitch and not allow the needle to pierce the goods whilst the garment is feeding through, as that would carry the needle back with the goods and cause it to strike on the throat-plate.

Another Guide for Setting the Feed Cam: When the feed is set at a proper height, as also the needle, for ordinary sewing, turn the fly-wheel of the machine around until the needle on its forward downward stroke is ready to enter the hole in the needle-plate; then the top of the feed should be exactly even with the needle-plate.

4th. The shuttle-carrier is attached to the shuttle-lever-arm with a screw, and supported on either side by the rim of a slot milled in lever-arm. The carrier is adjustable to the right or left in the slot of the lever-arm, so as to allow the thread to pass freely between the shuttle and its carrier. This being the guide for setting the shuttle, care should be taken not to give the thread more room than is necessary, or it allows the shuttle to rattle. If, through any cause, a shuttle-lever-arm should become bent, a wrench can be used to adjust and straighten it so that the shuttle will not run so high as to hit the feed, or so low that the shuttle-carrier will rub on the bottom of the race.

5th. To Set the Feed-Hook: Screw it to the feed-bar loosely; then move it till its position will carry the feed to the rear of the feed slot in the needle-plate and not strike; then fasten screw firmly.

6th. How to Adjust the Needle to or from the Shuttle. Loosen the large screws that hold face to arm, then the needle can be moved in any direction. The shuttle-point, together with the needle-hole, should be the guide for setting the needle. Now put in a No. 4 needle; be sure it is straight and passes up and down true through the needle-hole; then move the two small screws, taking care to screw them equally so that each will strike the face-plate at the same time, or in screwing up the lower large screw it will twist the face and perhaps cause it to bind) until the needle comes as near the shuttle as it can and not rub against it. The needle should pass central in the needle hole from front to rear, but a little nearer to the right than to the left of the hole, as it prevents the needle from glancing into the race and being caught by the shuttle-point. Thus having the needle in its proper position, fasten the large screws firmly at top and bottom of face-plate.

7th. Keep the Machine well cleaned and oiled. If the "White" machine runs heavily, it is self-evident that it has become dirty or gummed up with poor oil. Clean it off by the use of spirits of turpentine or kerosene; then wipe dry and apply only the best quality of sperm oil, and whenever you oil the machine, work it a little to distribute the oil, and then, after standing a few moments, take a cloth slightly moistened with oil and clean off the superfluous oil from the japanned parts of the machine, also from the needle-bar. The shuttle-race is provided with a lubricating cup filled with waste; keep this waste slightly moistened with oil, which will keep the shuttle and race lubricated all that is necessary.

Keep the inside parts of the machine thoroughly oiled, and especially oil the heart-cam and roller and pin. Turn the fly-wheel of the machine until the end of the heart-cam can be seen through the hole in the face-plate, then insert nozzle of the oil can and oil.

8th. Breaking Thread and Skipping Stitches are most generally attributable to the use of needles of poor quality, which are bought and sold chiefly upon the merit of cheapness. We are particularly desirous to impress upon the minds of dealers that such needles are dear as a gift, because ninety-nine times out of an hundred you may be called upon to repair a machine, whereas there would have been no complaint if a genuine good needle had been in use.

HINTS TO REPAIRERS.

(By "Cogwheel.")

When repairing an American sewing machine of the old button-hole and plain description, if the machine is old, having been run eight years or so, all the parts should be taken out of the head. When taking down the machine keep an eye on the position of the cam as it relates to the shaft. First remove the cam-pins, next the feed bar, unscrew the shuttle eccentric, then pull out the shaft and the balance of the work underneath will come out without any difficulty. Take out the arm pin, needle arm bar, and presser bar. The machine being now taken apart, clean the grease and dirt from its different parts, and after they are cleaned, if you will examine you will find, if an old machine, the friction ring and the parts to which it is connected have become so much worn as to allow as much as a quarter of an inch lost motion to the shuttle carrier. This lost motion can be taken up by bulging the friction ring and upsetting the shuttle eccentric. Now examine the feed lift on the shaft. You will find it so much worn that it is not under the control of the feed bar eccentric, and the feed regulator has no control to regulate the length of the stitch. It would not pay you to put in a new shaft, or, in other words, the owner would not consent to pay for a new shaft in an old machine, therefore you will be compelled to resort to drill bushing, which will answer all purposes.

C. A. RICKARDS,

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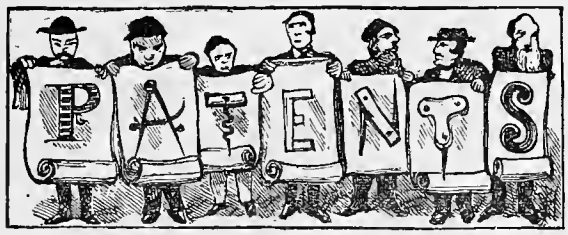

The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. REDFERN, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT :—

No. 4,658. E. Hughes, of Woolwich, Kent, for improvements in tricycles or velocipedes with three wheels. Dated November 12, 1880.

„ 4,670. W. H. Dorman, of Stafford, for improvements in sewing machinery, chiefly designed for the manufacture of boots and shoes. Dated November 12, 1880.

„ 4,697. W. H. Beck, of London, for improvements in ribbing attachments for knitting machines. Dated November 15, 1880.

„ 4,700. J. Kew, of Camden Town, London, for improvements in pianofortes. Dated November 15, 1880.

„ 4,707. E. Barstow, of Horsham, Sussex, Architect, for improvements in velocipedes. Dated November 16, 1880.

„ 4,725. A. Capra, J. B. Rissone, and S. Detoma, all of Clerkenwell, London, for improvements in pianofortes and mechanism combined therewith. Dated November 16, 1880.

„ 4,732. T. Williams, of Gee-street, and W. Sangster, of Compton-buildings, both in Goswell-road, London, for improvements in machinery or apparatus for forcing sausage meat and other substances into skins or other suitable receptacles. Dated November 17, 1880.

„ 4,763. C. G. Hawkins, of Leighton-road, Forest Gate, Essex, for improvements in the construction of tricycles and other velocipedes, and in attachments and driving gear for the same. Dated November 18, 1880.

„ 4,767. H. Weatherill, of Manchester, for improvements in tricycles, bicycles, and other wheeled vehicles. Dated November 18, 1880.

„ 4,797. C. A. Barlow—a communication from T. Wiget, of Arbon, and C. Wetter, of St. Gall, Switzerland, for certain improvements in machine embroidery, and in the process for manufacturing the same. Dated November 20, 1880.

„ 4,799. Sir T. G. A. Parkyns, of Beckenham, Kent, for improvements in the construction of velocipedes, and in the means of propelling the same, parts of which are applicable to other vehicles. Dated November 20, 1880.

„ 4,829. H. Hayward, of Gloucester, J. Day, and J. H. Gosling, both of Southsea, Hampshire, for improvements in bicycles, tricycles, and other velocipedes. Dated November 22, 1880.

„ 4,836. C. Necker, and R. Horstmann, both of Berlin, for improvements in whip-stitch sewing machines. Dated November 22, 1880.

„ 4,873. T. J. Palmer, of Fulham, and C. F. Dietrich, Engineer, of Dalston, London, for improvements in bicycles and tricycles. Dated November 24, 1880.

„ 4,878. J. Marshall, of Glasgow, for improvements in silent mincing machines. Dated November 24, 1880.

„ 4,888. A. G. Collings, and F. Bryant, both of Wimbledon, for improvements in washing machines. Dated November 24, 1880.

„ 4,923. L. Silvermann, of Regency-street, London, and J. R. Cumming, Little Ilford, Essex, for improvements in sewing machines for working the same with one or two needles independently of each other, and using as an under cotton any size of a reel of cotton or any other material without winding the cotton on small bobbins, and to produce a lockstitch. Dated November 26, 1880.

„ 4,929. T. S. Lyon, of Percival-street, Clerkenwell, London, for improvements in knife-cleaning machines. Dated November 26, 1880.

„ 4,948. W. H. Thompson, of Finsbury-square, and F. G. Henwood, of Budge-row, both in London, for improvements in the arrangement and construction of velocipedes and similar vehicles or machines. Dated November 27, 1880.

„ 4,964. J. C. Garrood, Engineer, of Fakenham, Norfolk, for improvements in velocipedes partly applicable to other machinery. Dated November 29, 1880.

„ 4,970. A. Specht—a communication from F. Buschmann, of Harburg, Germany, for improvements in the mechanism or action of pianofortes. Dated Nov. 29, 1880.

„ 4,975. J. Mitchell—a communication from J. Storey, of Brockville, Canada, for improvements in washing machines. Dated November 30, 1880.

„ 4,976. W. Fox and G. Brown, both of Manchester, for improvements in the manufacture of rollers for wringing and mangling machines and other purposes. Dated November 30, 1880.

„ 4,978. A. N. Hopkins, of Birmingham, for an improved candle holder and save-all. Dated November 30, 1880.

„ 5,010. A. J. Boult—a communication from S. B. Ryder, of Elizabeth, New Jersey, United States, for improvements in the method and means of removing dust from carpets. Dated December 1, 1880.

„ 5,021. T. Bradford, of High Holborn, London, for improvements in or connected with the driving gear or actuating mechanism of mangles. Dated December 2, 1880.

„ 5,082. A. Kirby, of Bedford, for improvements in the construction of velocipedes and apparatus connected therewith. Dated December 6, 1880.

„ 5,096. J. A. Lamplugh, of Birmingham, for certain improvements in the mode of supporting the seat or saddle of bicycles, tricycles, and other similar vehicles. Dated December 7, 1880.

„ 5,157. J. S. Cooke, of Gomersal, Yorkshire, for improvements in and applicable to velocipedes. Dated December 10, 1880.

„ 5,187. J. Summerscales, of Keighley, Yorkshire, for improvements in wringing machines. Dated December 11, 1880.

„ 5,216. A. Munzinger, of Olten, Switzerland, for improvements in and connected with spinning machines. Dated December 13, 1880.

Letters Patent have been issued for the following :—

No. 2,088. T. McGrah, of Sheffield, and W. Bown, of Birmingham, for improvements in automatic thread winders adapted for sewing machines or other similar purposes, also for automatic attachments for sewing machine winders. Dated May 22, 1880.

„ 2,164. C. R. Garrard, of Uxbridge, Middlesex, for improvements in and relating to velocipedes, applicable in part to other purposes. Dated May 27, 1880.

„ 2,224. H. J. Haddan—a communication from N. S. C. Perkins, of Norwalk, Ohio, United States, for improvements in velocipedes. Dated June 1, 1880.

„ 2,290. L. Hardaker, of Leeds, for improvements in road vehicles or velocipedes. Dated June 7, 1880.

„ 2,944. W. E. Partridge, of Birmingham, for improved apparatus for washing clothes, applicable also as a mixer or agitator in various processes. Dated July 17, 1880.

„ 3,010. J. Creswell, of Loughborough, Leicestershire, for improvements in apparatus employed in the manufacture of knitted fabrics. Dated July 22, 1880.

„ 3,141. S. Pitt—a communication from L. B. Miller, and P. Diehl, both of Elizabeth, New Jersey, United States, for improvements in thread cases and under tensions for sewing machines. Dated July 30, 1880.

„ 3,744. M. Webb, of Adelphi-terrace, London, for improvements in bicycles, tricycles, and other vehicles for self-propulsion, which improvements are also applicable to other purposes. Dated September 14, 1880.

PATENTS WHICH HAVE BECOME VOID :—

„ 4,162. W. R. Lake—a communication from A. Lohmann, of Iserlohn, Germany, for improvements in smoothing

irons, and in heater for the same. Dated November 7, 1879.

„ 4,177. A. Browne—a communication from F. and J. Benoist and M. J. C. Ponlain, all of Paris, for improvements in spinning machinery. Dated November 8, 1877.

„ 4,180. W. R. Lake—a communication from R. Hutton, of Brooklyn, New York, United States, for improvements in roller skates. Dated November 8, 1877.

„ 4,195. J. Morton, of Glasgow, for improvements in shuttles for sewing machines. Dated November 9, 1877.

„ 4,200. D. Harris, of Brooklyn, New York, United States, for improvements in button-hole linings, and the machinery for manufacturing the same. Dated November 9, 1877.

„ 4,261. H. E. Newton—a communication from T. S. Wiles, of Albany, New York, United States, for improvements in ironing machines. Dated November 14, 1877.

„ 4,267. F. Wirth—a communication from W. Henrici, of Heidelberg, Germany, for an improved ironing machine. Dated November 14, 1877.

„ 4,276. H. Guthrie, of Manchester, for improvements in sewing machines. Dated November 15th, 1877.

„ 4,338. L. Lindley, of Nottingham, for improvements in machinery or apparatus for dressing or stretching and ironing and finishing lace and other fabrics. Dated November 19th, 1877.

„ 4,545. E. T. Hughes—a communication from Tunker and Ruh, manufacturers, of Carlsruhe, Germany, for improvements in sewing machines. Dated December 1, 1877.

„ 4,564. J. E. Bertin, of Paris, manufacturer, for an improved sewing machine. Dated December 3, 1877.

„ 4,565. S. Louis—a communication from C. Dognin, L. Isaacs, and S. Haas, all of Paris, for improvements in means of driving light machines, such as those used for sewing, embroidering and the like. Dated December, 1877.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1*d. each extra.*

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No. 1,439.	W. B. Dick, mangles and wringing machines...	0	4
„ 1,529.	J. Whiteford, machinery for washing, bleaching, dyeing, &c.	0	6
„ 1,532.	H. Courteen, apparatus for cleaning and sharpening knives	0	6
„ 1,555.	T. Coltmann, knitting machines...	0	8
„ 1,565.	J. Goodman, bicycles	0	2
„ 1,583.	J. Bell, portable or traversing washing, brushing, and scouring machine	0	2
„ 1,618.	W. R. Lake, driving mechanism for sewing machines	0	6
„ 1,654.	J. Camm, spinning	0	2
„ 1,655.	E. M. Knight, knife cleaning machines ...	0	6
„ 1,673.	E. C. F. Otto, bicycles, &c.	0	6
„ 1,682.	W. R. Lake, sewing machines for uniting hosiery	0	4
„ 1,714.	J. Edwards, arrangements for working sewing machines	0	6
„ 1,742.	F. W. Jones, bicycles, &c.	0	2
„ 1,831.	W. A. Waddington, pianofortes	0	6
„ 1,899.	J. Phipps and E. Blackshaw, machinery for washing clothes, &c.	0	2
„ 1,932.	W. R. Lake, plaiting or kilting machines ...	0	6
„ 1,937.	W. R. Lake, velocipedes	0	8
„ 2,034.	W. Powles, perambulators	0	2
„ 3,245.	J. Bradley, circular knitting machines	0	6

ASCHERBERG PIANOS

(DRESDEN)

These Pianos combine the best qualities of all the most renowned makers.

THE COURTEOUS COLLECTOR.

The collector of instalment debts who imagines that the most useful qualification he can bring to the successful prosecution of his business is his capacity for worrying creditors into payment, makes a great mistake. People cannot be driven into the payment of money—bullying only makes them more obstinate in their refusals. Many of the suits that find their way into the courts have been brought thither through the roughness of the collectors, whose manner has irritated people who would cheerfully, though with a little delay, perhaps, have paid the money to more courteous men. Men of the world recognise the truth of the maxim that "the mild power subdues." A collector should be good-natured in his demeanour, bearing disappointment without too evident annoyance, and capable of leaving a good impression behind him as he departs with the cheerfully expressed hope that he will have better luck next time. With debtors who have tried his patience a little too often he should be moderate but firm in his remonstrances. He should never make threats. In dealing with the class of incorrigibles he should never allow himself to be betrayed into anger, or, at least, into showing it. He can be as severe as he pleases without bluster. Wholesome truths, uttered in a calm voice, strike with much more force than when accompanied by anger and want of self-control. Courtesy, under any and all circumstances, should be a prominent characteristic of the sewing machine collector. It is a qualification that will greatly facilitate his somewhat arduous duties, and will make friends for himself, his employers, and the goods they sell.

LAUNDRY GLOSS.

For shirt-collars, wrists, and fronts, in order to give a glossy surface without striking through.

Three hundred parts of water are boiled for fifteen to thirty minutes with three to five parts of cut marshmallow root. The liquid is then poured off, and, after the addition of twenty-four parts of borax, four parts of "anhydrous" soda, and one hundred parts powdered bleached shellac, the whole is heated again. After a short time the shellac dissolves to a muddy yellowish liquid, which, after cooling, is filtered through cotton.

Dr. Geissler, one of the editors of the *Pharm. Centralh.*, makes the following remarks: "Althæa root, which a pharmacist would probably not boil, is entirely superfluous in this varnish, and so is also the soda. I have, myself, made experiments to prepare such a varnish, and have found that it is most simply and rapidly prepared by shaking a saturated solution of borax with powdered shellac, without heat. One part of shellac is soluble in two parts of a saturated solution of borax, after frequent shaking during two or three days. In three parts, however, it is easily soluble. The bleached shellac must be preserved under water, and must be dissolved immediately after being powdered; for, if it is allowed to be exposed to the air in a powdered condition for several days, it will either not dissolve at all, or only with great difficulty. If a higher temperature than 50 or 60 deg. C. is used in preparing the varnish, it is apt to assume a faint reddish colour, the cause of which I have vainly tried to ascertain. The finished varnish, however, heats very well. This varnish is a most excellent starch gloss. In fact, it is much more appropriate and serviceable for this purpose than all other known commercial 'starch glosses.'"

AUCHER PIANOS (PARIS.)

WESTERMAYER PIANOS (BERLIN)

LIPP PIANOS (STUTTGART.)

RONISCH PIANOS (DRESDEN.)

Agents: E. ASCHERBERG & Co.,

QUEEN STREET, CHEAPSIDE, LONDON.

THOMAS SMITH & SONS,

ESTABLISHED 1848.

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THE ORIGINAL MANUFACTURERS OF

BICYCLE FITTINGS,

EVERY PART SUPPLIED IN VARIOUS STAGES,

From the Rough Stamping or Forgings to the Complete Finished Article.

None but the very best Brands of Material used for the several purpose embracing LOW MOOR IRON, BEST BEST GUN, &c., &c.

VERY SPECIAL IN ALL SUNDRIES AND APPLIANCES,

INCLUDING ALL NEWEST DESIGNS AND PRINCIPLES IN

SADDLES, VALISES, SPANNERS, LAMPS,

BELLS, &C., &C.

61, HOLBORN VIADUCT,

LONDON, E.C.

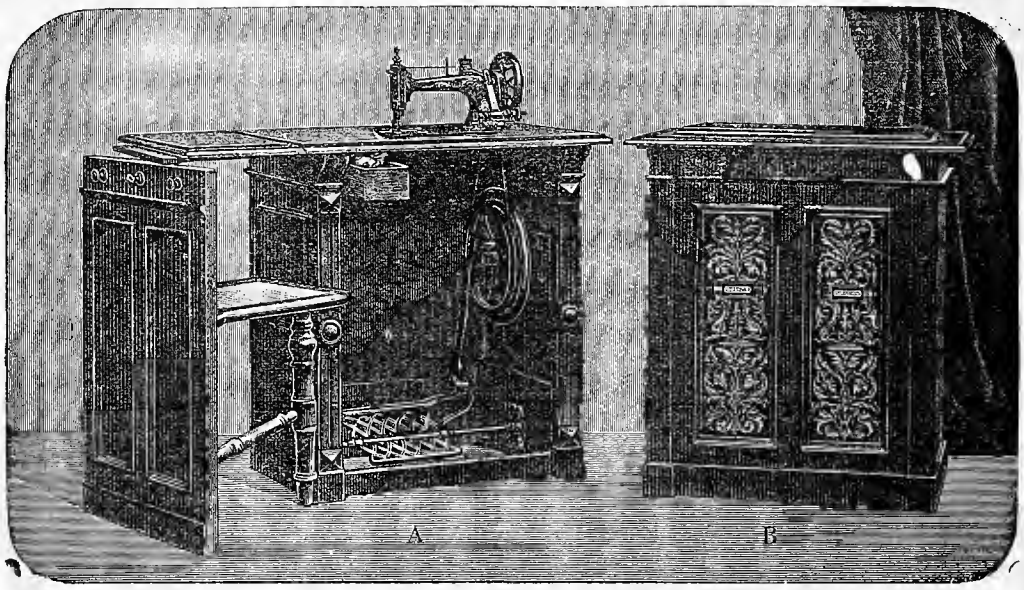
Works:—Saltley Mill, Birmingham.

DEALERS ARE INVITED TO APPLY FOR WHOLESALE TERMS

GRITZNER & CO., At DURLACH, in Germany.

Factory of Sewing Machines and Sewing Machine Cabinets.

Oak waxed or walnut polished, plain or walnut polished, with elegant INTARSIA ORNAMENTATION.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

FIG. A, OPEN.

FIG. B, LOCKED.

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother-of-pearl, and highly ornamented in hand painting by specia artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE,

Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom.

PRIZE MEDALS AWARDED.

London, 1851,
For High Merit.

PARIS, 1878.

GOLD MEDAL.

Vienna 1878,
For Progress.

London, 1862,
For General Great Excellence.

Philadelphia, 1876,
For Superior Excellence.

MARSHALL & CO.

Linen
Thread
MANUFACTURERS

Shrewsbury,
England.

Linen Sewing-Machine Threads. **Shoe Threads.**

Sole-Sewing Machine Threads, For Blake, Keats, Pearson & other Machines

Wax Machine Threads, of Best Quality and Special New Quality.

Saddlers' Threads. **Harness Threads.**

Also, Hand Sewing Threads, { for Tailors' work, Domestic use, Book-binding, Carpet Sewing, &c.

Six-Cord Machine Twist, used in substitution for Silk.

Gilling Twines. **Macrame and other Lace Threads.**

BY ROYAL LETTERS PATENT.

THE "DESIDERATUM" BICYCLE,

(FOR SEASON 1880.)

PATENT SELF-ADJUSTING STANLEY HEAD (which cannot get out of order).

PATENT NON-CORROSIVE SPOKES.

IMPROVED ADJUSTABLE ROLLER, or Ball Bearings.

IMPROVED ADJUSTABLE STEP.

IMPROVED DUSTPROOF CONED BEARINGS to Back Wheel & Pedals.

"Few makes are now better known than the "Desideratum"; certainly we have received more inquiries concerning it than any other Machine, and although a large number of our readers must be mounted on this steed, *we have never yet heard a single complaint regarding it.*—" VIDE *Bicycles of the year* 1878.

PATENTEES AND MANUFACTURERS

HARRINGTON & CO.,

STEWART STREET, WOLVERHAMPTON.

Descriptive Price Lists on application. Agents wanted in Towns where not represen

HOLROYD'S NEW PATENT KILTING MACHINE

Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

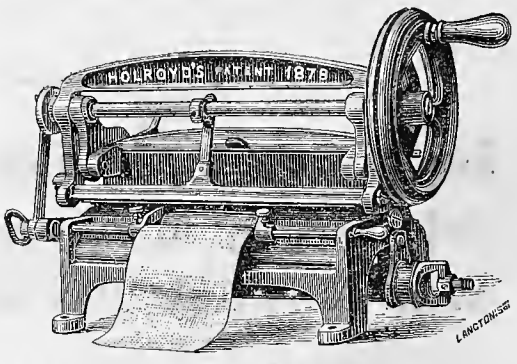
THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

It will make any kind of kilt desired, from the narrowest to an inch wide, and any depth up to ten inches, and can be altered to different styles and widths immediately, and in a most simple manner.

It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



Price, complete with gas arrangements and 4 heating irons, £3 3s.

ELECTRO-PLATING BY STEAM POWER, AND DYNAMO ELCTRIC MACHINES,

Combining all the latest improvements in **GILDING, BRONZING, &c.**, on rough or smooth surfaces, on any kind of metal goods.
Special Terms offered to Manufacturers of articles suitable for plating.

J. HOLROYD, Tomlinson St., Hulme, Manchester.

WRIGHT & CO.,

Sewing Machine Merchants & Manufacturers,

27, SHOREDITCH, LONDON, E;

ALSO AT 457 AND 502 KINGSLAND ROAD, LONDON, N.

The TRADE and SHIPPERS supplied with every description of Sewing Machines upon the most liberal terms.

Hand Machines, from 18s.

Treadle Machines with all the most recent Improvements.

LOCKSTITCH, ANY SYSTEM, WARRANTED FROM 50s.

Agents wanted throughout Great Britain and the Colonies.

Catalogues and Terms upon Application.

"THE COVENTRY TRIUMPH" BICYCLES & TRICYCLES.

WARMAN, LAXON & CO.,

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles Manufactures for this Season cannot be surpassed. Price Lists on Application.

JOSEPH DEVEY & CO.,

TOWER WORKS, PIPER'S ROW, WOLVERHAMPTON,

MANUFACTURERS OF THE "EXPRESS" BICYCLE,

AND

BICYCLE FITTINGS OF EVERY DESCRIPTION.

WHOLESALE AND FOR EXPORTATION.

LISTER & CO.,

MANNINGHAM MILLS, BRADFORD,

MANUFACTURERS OF

MACHINE SILKS AND TWISTS,

BUTTON-HOLE SILK TWISTS.

KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

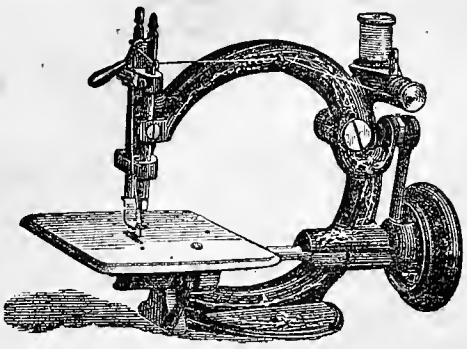
Recommended for Strength, Evenness and Pure Dye. Length indicated on each label guaranteed.

ONE TRIAL WILL PROVE THEIR SUPERIORITY.

L. & Co.'s Knitting Silks Wash as Well as any produced.

CHARLES J. THURLOW,

MANUFACTURER OF SEWING MACHINES,



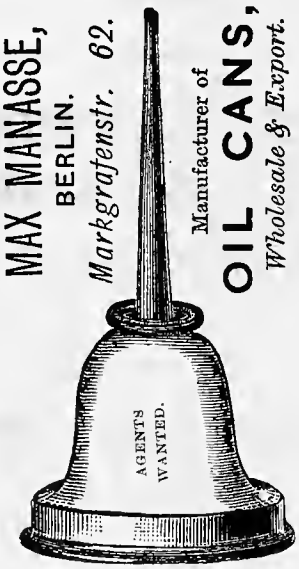
Either for Hand, Treadle, Stand, or Power. Lathes from 3½ inch upwards.

39, CHESTER STREET, HULME,

MANCHESTER

MAX MANASSE, BERLIN. *Markgrafenstr. 62.*

Manufacturer of **OIL CANS,** *Wholesale & Export.*



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Patent Double Section Hollow Rims, 18s. 6d per pair.

The Lightest and most rigid in the Market.

INVINCIBLE,

The only machine made with a perfect

SUSPENSION SPRING AND SADDLE.

The Patent D.S.H.R. Racer is the lightest and most rigid machine in the world

List and Photo 4 Stamps. Illustrated List of Bicycle Fittings stamp.

Special Terms to Shippers and Agents.

58, BLACKMAN ST. LONDON.

WATSON & CO.,

OLDHAM,

MANUFACTURERS OF THE CELEBRATED

Family and Medium Machine

WITH ALL THE LATEST IMPROVEMENTS.

ALSO MANUFACTURERS OF THE

VICTORIA MACHINE,

On the Wheeler and Wilson Principle.

Special Terms to Merchants and Shippers.

The only Preparation in the World that will Clean and Polish Sewing Machines, Bicycles, Pianos, Furniture, Silver and Plated Wares, Fenders and Fire Irons, Brasses, Mirrors, and Patent Leather Boots.

LOUISE

Universally Celebrated

HOUSEHOLD

MAGIC POLISH

Manufactured by

ALTMAN & Co., Limited, Hamsell St., E.C.

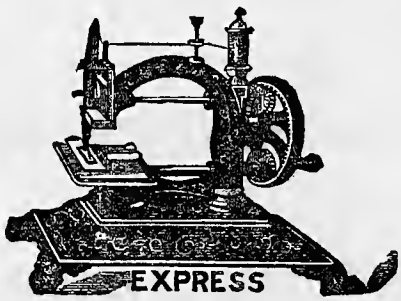
Entirely free from Mercury, Oil, or Acids.

Price 1s. TRY IT. *Special terms to Merchants and Exporters.*

A LARGE STOCK OF

ICE SKATES

From **18/6** per dozen pairs.



G. E. WRIGHT,

WHOLESALE

AGENT FOR SEWING MACHINES

OF EVERY DESCRIPTION.

Sole Agent for the "Little Europa" Lockstitch Sewing Machines, and Royal Rink Roller Skates.

No. 1, NEW BROAD STREET,

LONDON, E.C.

ASCHERBERG PIANOS

(DRESDEN)

These pianos combine the best qualities of all the most renowned makers.

QUEEN STREET, CHEAPSIDE.

ESTABLISHED 1836.

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With Agents and Correspondents throughout the Kingdom, on the Continent of Europe, and in the United States of America, and the British Colonies.

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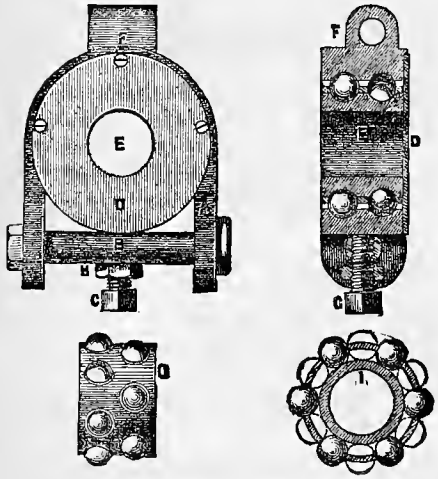
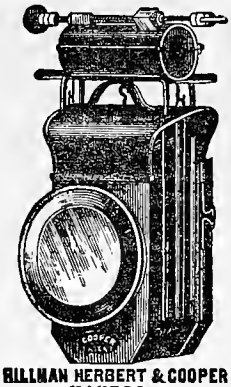


PATENT DOUBLE

BALL BEARINGS.



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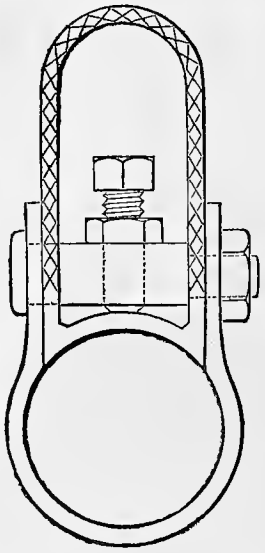
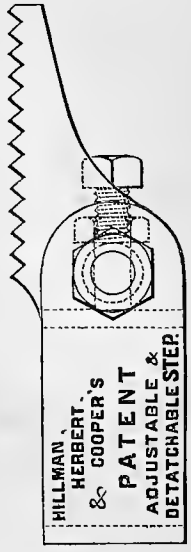
COOPER'S

INEXTINGUISHABLE HUB LAMP.

The only Lamp that does not go out on a rough road.





On the "**D.H.F. PREMIER,**" fitted with our Patent Ball Bearings, was accomplished the greatest distance ever ridden in one week, viz.:—**1,405 MILES**, and on the same Machine the greatest distance in one day is **262 MILES**.

SEND FOR CATALOGUE FREE.

TESTIMONIAL.

Leamington, October 14th, 1880.

Dear Sirs,

Please send another large size "Cooper's Patent" Lamp, so that I may get it to-morrow. It is the grandest thing in Lamps that I have ever seen or tried.—Yours truly, W. TATTERSFIELD.

All Communications to be addressed to the Works, COVENTRY.

The Only Gold Medal for Boot and Shoe Machinery Awarded at the Paris Exposition was for the Machinery of

THE BLAKE & GOODYEAR
BOOT AND SHOE MACHINERY COMPANY,

LIMITED.

A GREAT VARIETY OF MACHINERY

FOR

HEEL NAILING AND TRIMMING,

EDGE TRIMMING AND SETTING,

HEEL BLOCKING, RAND AND WELT CUTTING,

RAND TURNING,

SELF-FEEDING EYELET MACHINES,

Self-Feeding Punches, Double and Single Fitting Machines

FOR PUTTING IN ELASTICS,

STRAIGHT AND CIRCULAR BEADERS,

And a great variety of other Machinery and Patented Tools.

MANY OF OUR MACHINES MAY BE SEEN IN MOTION,

AT NEWPORT PLACE, LEICESTER.

Raw Hide Mallets & Hammers for Shoe Manufacturers & Machinists.

ROLLERS, PRESSES, KNIVES, AND IRON OR WOOD LASTS.

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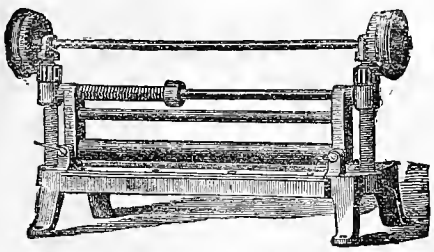
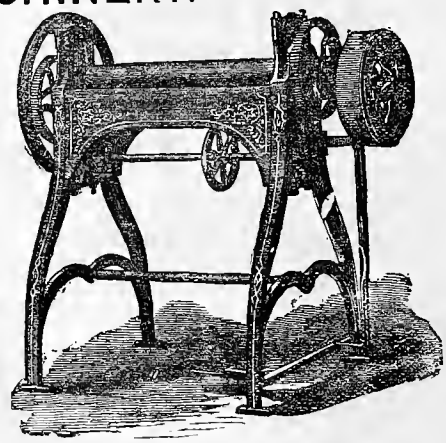
BLAKE & GOODYEAR, LIMITED,

The Only Gold Medal for Boot and Shoe Machinery.

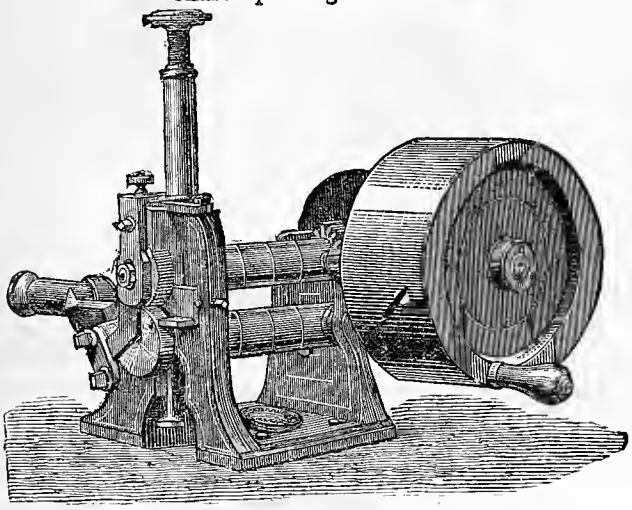
SOLE LEATHER MACHINERY.



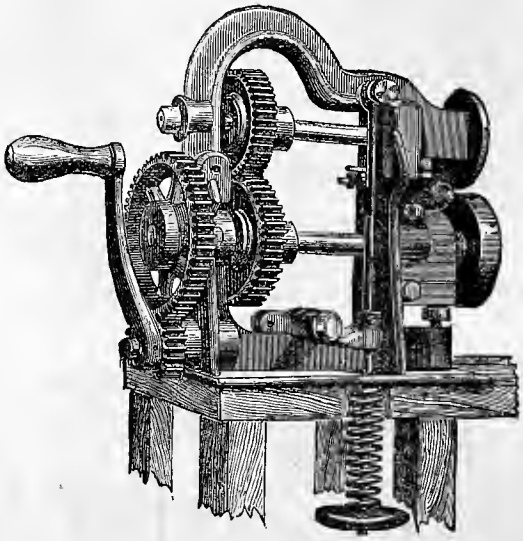
Chase Splitting Machine.



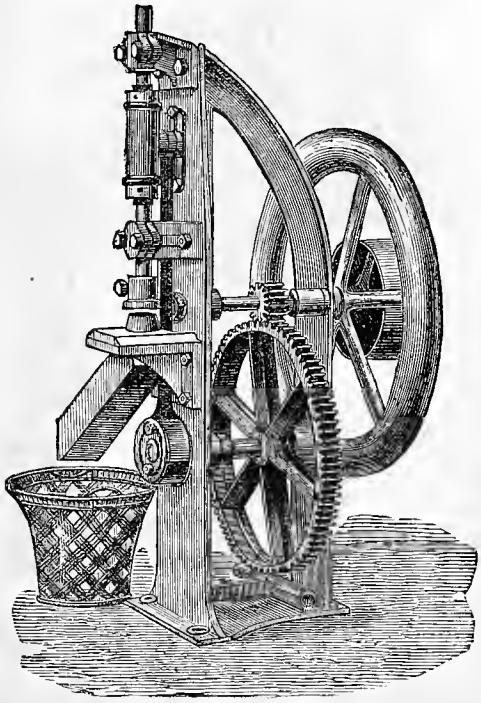
Star Splitting Machine.



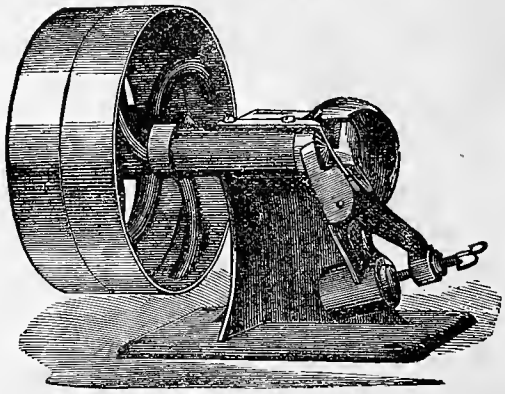
Improved Kilburn Rand Splitter.



Edge Levelling Machine.



Lift Cutting Machine.

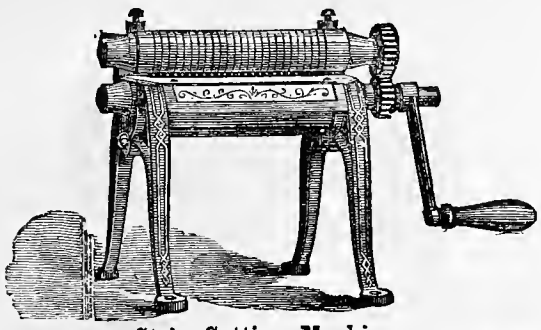


Rand Turning Machine.

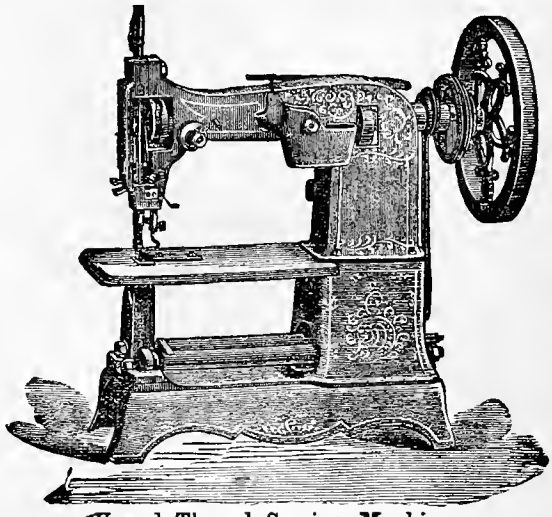
1, WORSHIP STREET, FINSBURY, E.C.

The ONLY GOLD MEDAL at PARIS for BOOT & SHOE MACHINERY.

UPPER LEATHER MACHINERY.

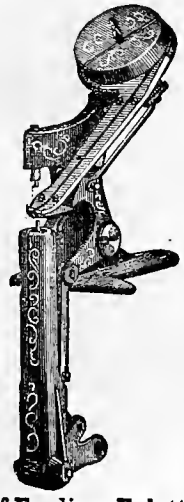


Strip Cutting Machine.



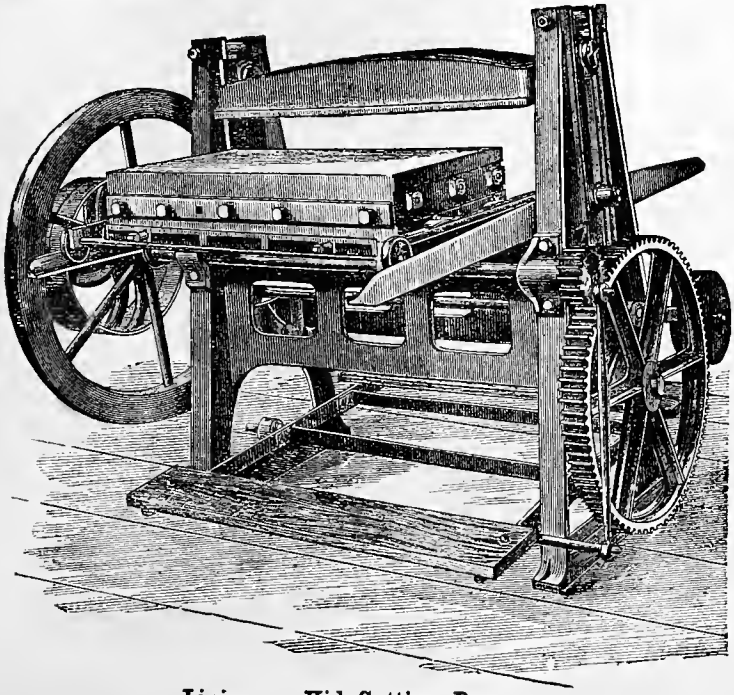
Waxed Thread Sewing Machine.

Self-Feeding Punch.

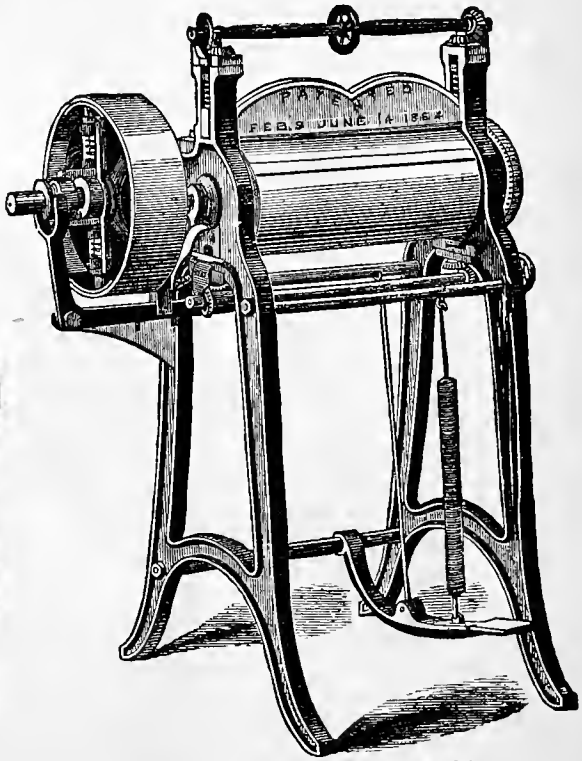


Self-Feeding Eyletter.

Seam Rubber.



Lining or Kid Cutting Press.



Upper Leather Splitting Machine.

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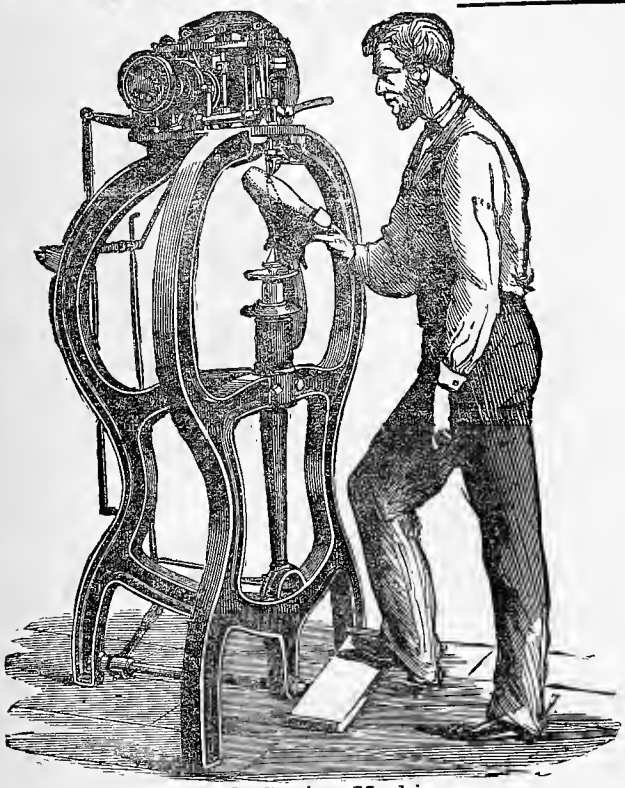
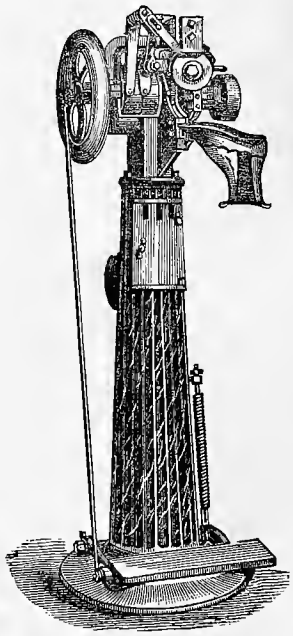
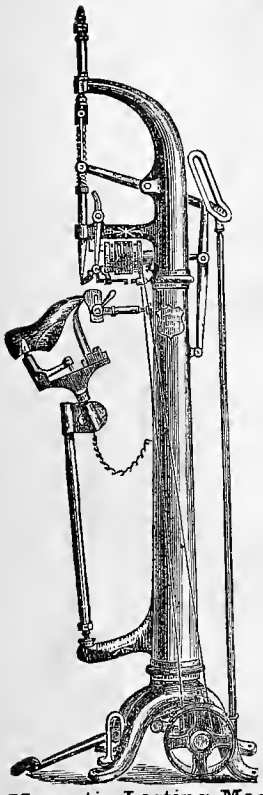


Blake Sole-Sewing Machine
(Terms, Without Royalty).

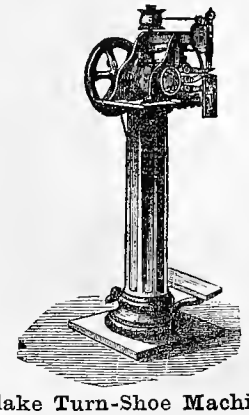


The New Welt-Stitching Machine.

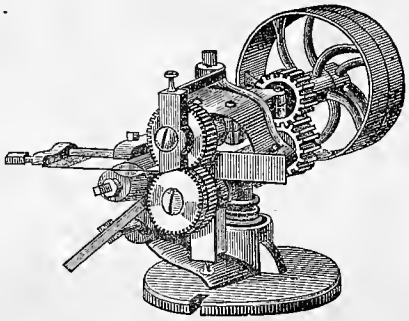
The New Welt-Sewing Machine.



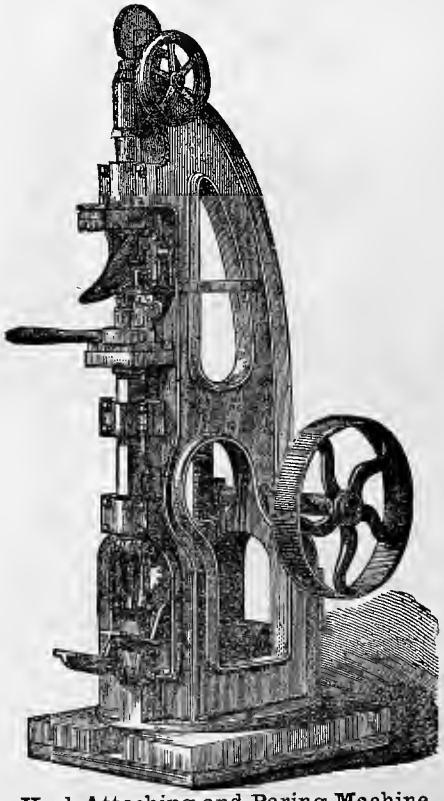
Magnetic Lasting Machine.



Blake Turn-Shoe Machine.



Tripp Rand Splitter,



McKay Heel-Attaching and Paring Machine.

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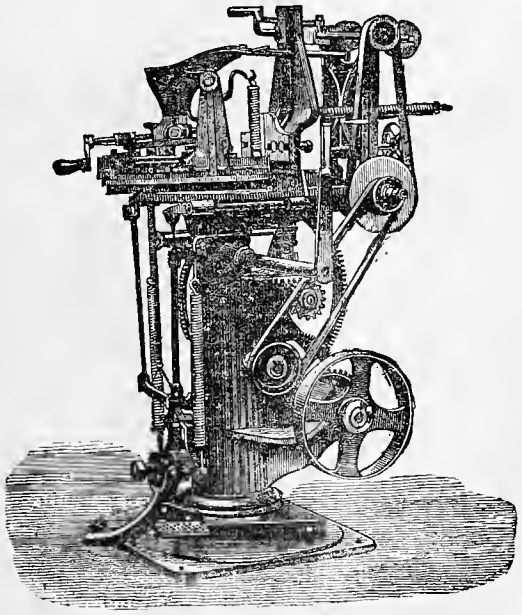
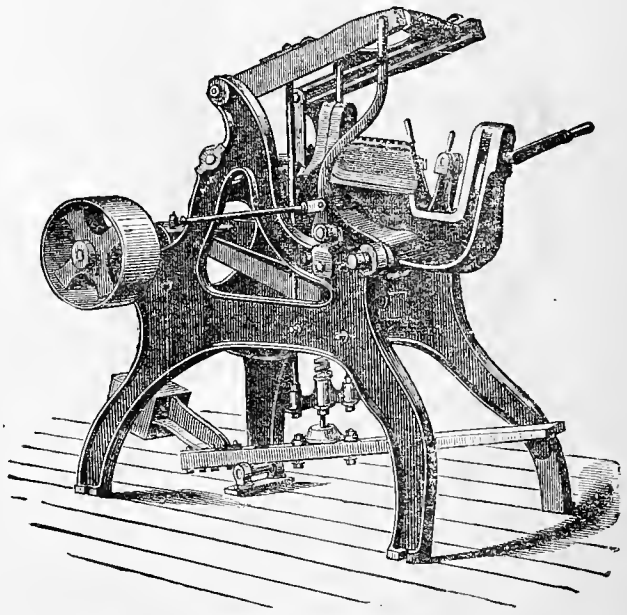
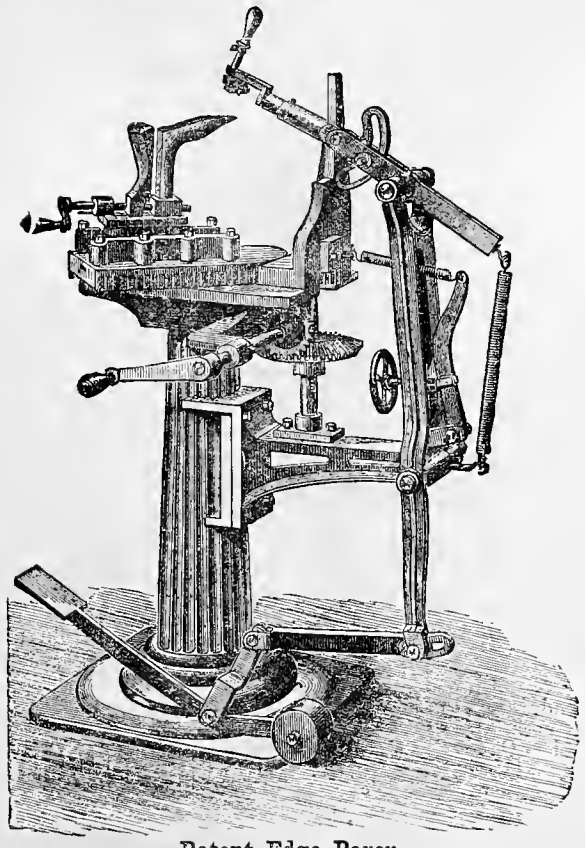


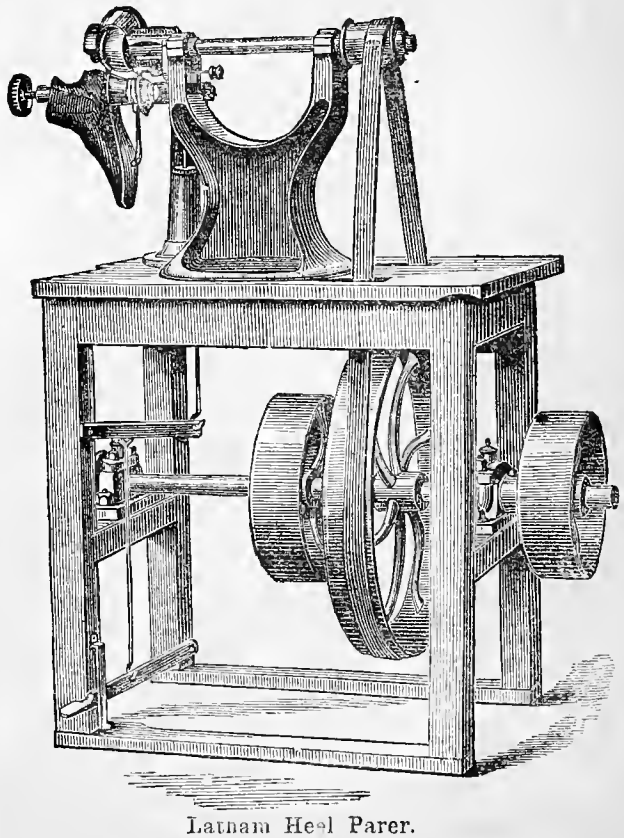
Blake Edge Setter.



Gilmore Leveller.



Patent Edge Parer.



Latham Heel Parer.

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These Springs give ease to the Foot, and elasticity to the Boot.
Goodyear's Patent Steel Springs effectually prevent Corns and Bunions.
See that your Boots have "Goodyear's Patent Steel Springs" stamped on the sole.

TESTIMONIAL.

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Gentlemen,—Having used the Goodyear Patent Steel Springs for more than two years, I strongly recommend them to all my Patients. I give a pair to each one of them, advising them to wear the same, as they give ease to the foot and elasticity to the boot, causing the boot to conform more to the shape of the foot, thereby preventing bunions and corns.

Yours truly,
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Goodyear's Steel Springs Wholesale only of the

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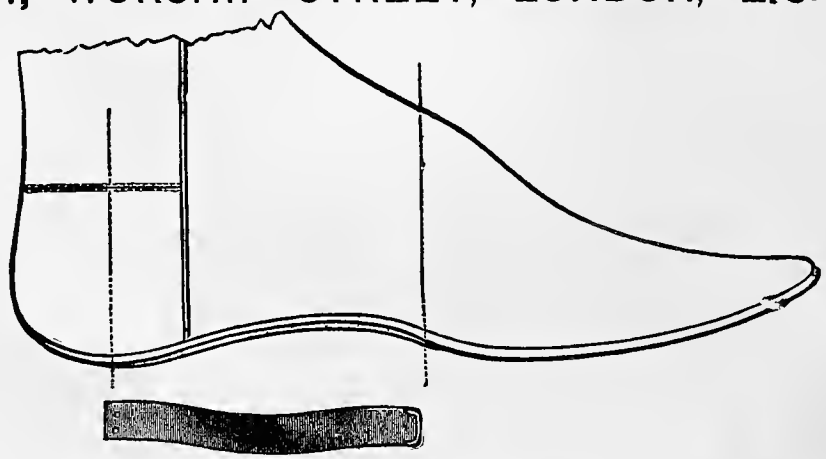

Directions for using Goodyear's Patent Steel Springs for Ladies' and Gentlemen's Boots and Shoes.

Place the flat end of the Spring well under the heel, peg or nail down through the holes into the insole at the heel only.

Caution.—Do not place them too far forward.

The above Diagram shows exactly where they should be placed.

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USE NO MORE PEGGED OR RIVETTED BOOTS & SHOES.

WHY NOT?

1st. The Pegs dry up. Rivets work up into the foot.

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6th. Wood pegs and brass or iron rivets belong to a past age, and should not be used any longer.

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STANDARD SCREW FASTENED BOOTS & SHOES.

Are entirely different from all others and far better. The soles never come apart nor Rip.

LOOK OUT FOR IMITATIONS!

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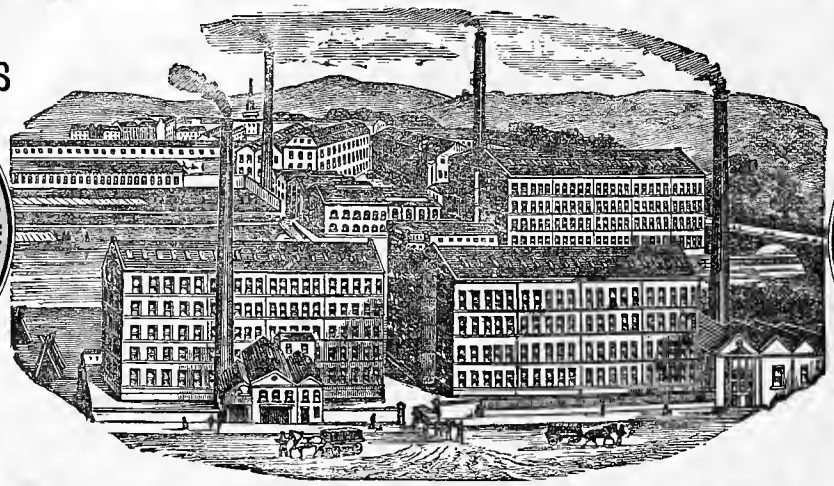

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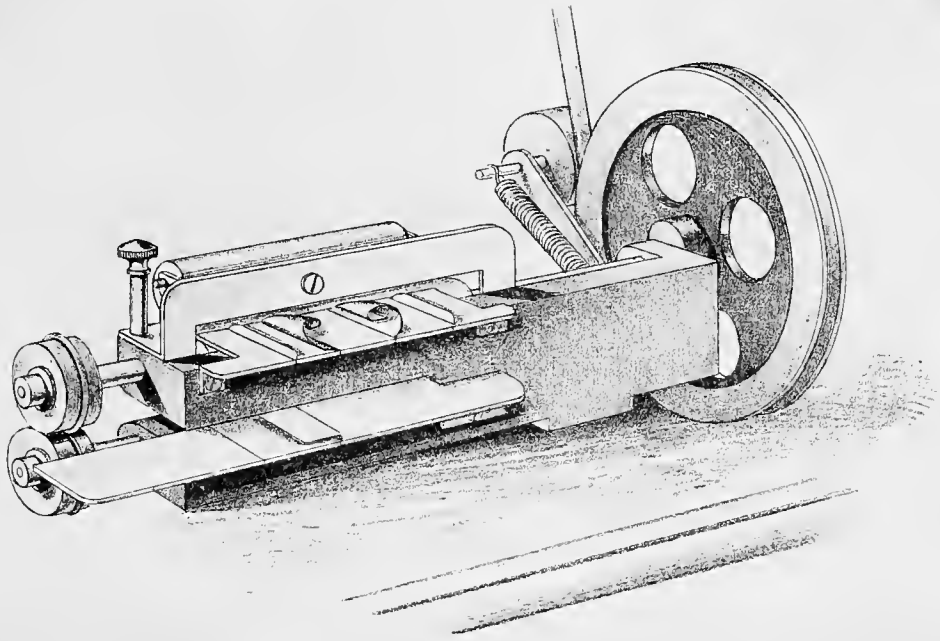
JAN. 1ST 1881.



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Grimsby, 57, Freeman-street
Guernsey, 17, Smith-street
Guildford, 161, High-street
Halstead, 53, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 57, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ilkeston, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 14A, New-street
Keighley, 2, Market-place
Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 164, High-street
Liverpool, 21, Bold-street
Longton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 32, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street
Maldon, High-street
Manchester { 105, Market-street; 132, Cheetham-hill; 438, Stretford-road }
Manningtree, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Shropshire-st.
Market Harboro', Church-street
Melton Mowbray, Victoria House, Market-place
Middlesboro', 59, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 28, High-street
Newport (I. of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 53, Aughton-street
Oswestry, Bailey-street
Otley, 34, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street
Ramsgate, 31, West Cliff-road
Rawtenstall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Ripon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane, and 100, Regent-road
Scarborough, 30, Huntriss-row
Scotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 61, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station Street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 33, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Domnick-street
Kilrush, Moore-street
Kingstown, 65½ Lower George-st
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford, Selskar-street

THE WHITE SEWING MACHINE COMPANY.

MANUFACTORY:

Cleveland, Ohio, United States of America.

PRINCIPAL EUROPEAN OFFICE:

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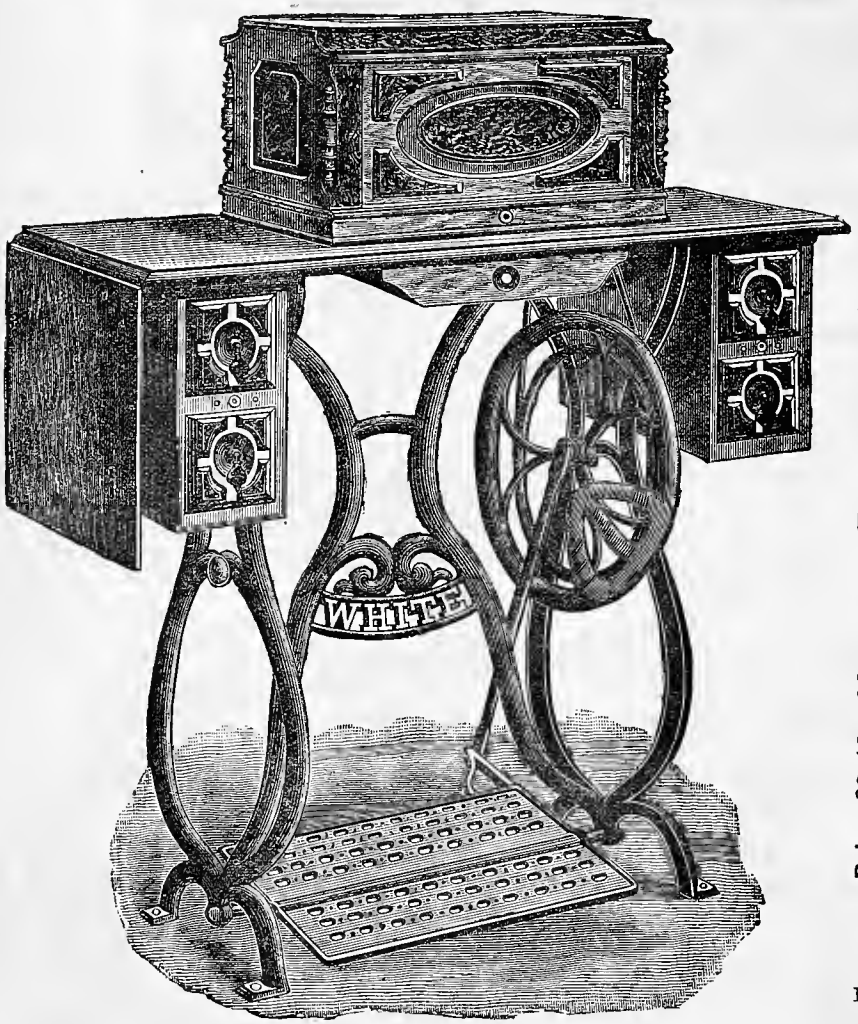
Manufacturers of the justly Celebrated

WHITE SEWING MACHINES,

THE POPULAR FAVORITES FOR NOISELESSNESS AND EASY TREADLE MOVEMENT.



SUPERLATIVE

Machines for all work. 12 various styles. | IN THEIR | Every machine Warranted for 5 years. Legal guarantee

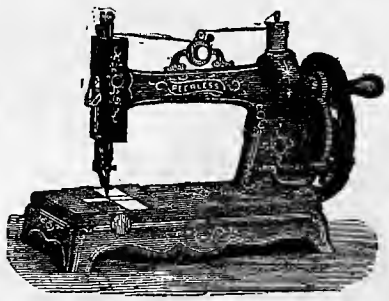
ATTRIBUTES.

IT IS THE FINEST FINISHED AND BEST MADE MACHINE IN THE WORLD.

IT IS THE EASIEST-SELLING AND BEST-SATISFYING MACHINE EVER PRODUCED.

The Peerless Hand Machine.

Price £3 12s. Od.



Price £3 12s. Od.

Cheapest and Best in the Market. Warranted for 3 years.

LIBERAL TERMS TO RESPONSIBLE DEALERS AND AGENTS.

All Sewing Machine Agents, Dealers, and Operators are invited to call and inspect this—the latest Improved and Best Silent Lock-Stitch Shuttle Sewing Machine—or send for Pamphlets, Circulars, &c., to

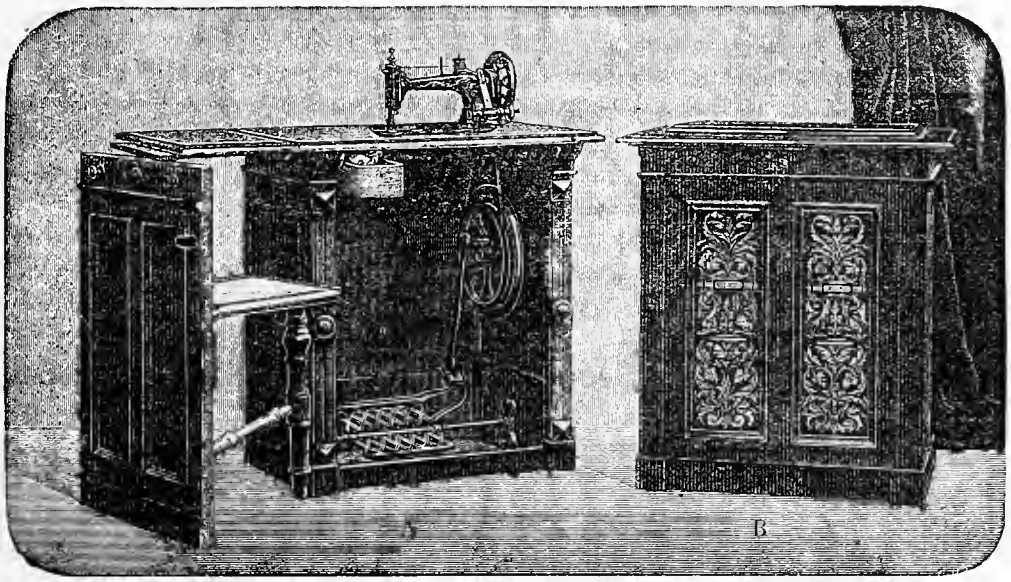
WHITE SEWING MACHINE COMPANY,

19, Queen Victoria Street, London, E.C.

GRITZNER & CO., At DURLACH, in Germany.

Factory of Sewing Machines and Sewing Machine Cabinets.

Oak waxed or walnut polished, plain or with elegant Intarsia Ornamentation.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

FIG. A, OPEN

FIG. B, LOCKED.

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother-of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE,

Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom.

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ANNUAL PRODUCTION, 30,000 MACHINES.

PROPER IRON FOUNDRY.

FIRST PRIZES AT DIFFERENT EXHIBITIONS.

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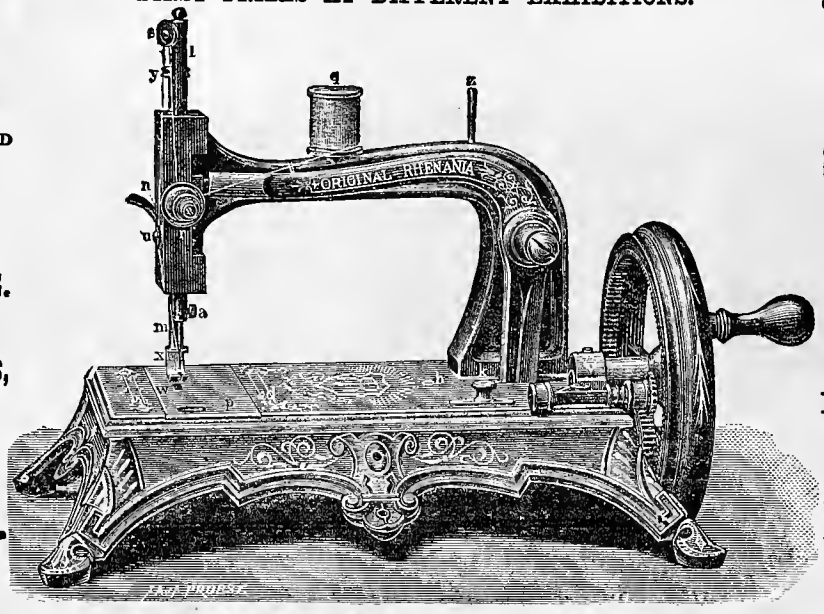
ORIGINAL RHENANIA,
UNRIVALLED SPLENDID
HAND
SEWING
MACHINE.



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Sewing Machine
FOR TRADE.

ORIGINAL FIDELITAS,
Best Family
SEWING
MACHINE.

ORIGINAL BADENIA,
HEAVY STRONG
SEWING
MACHINES
FOR TRADE.

TRADE MARK

JUNKER & RUH,
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CARLSRUHE (Germany).

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THE LARGEST
SEWING
Machine "Belt" Manufacturers.

THE LARGEST SEWING
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THE LARGEST SEWING MACHINE
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ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,

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	NETT CASH, by the Half Doz. RETAIL.	WHOLESALE.
The Celebrated "**TAYLOR FRICTION**" Improved...	£4 14 6	£2 0 0
The "**COMMERCIAL HOWE**" Hand Machine... ...	4 4 0	1 15 0
The **ditto ditto** Treadle	5 5 0	2 10 0
The "**COMMERCIAL**" CHAIN STITCH, formerly called "THE EXPRESS."...	2 2 0	0 17 0
"**TAYLOR'S PATENT,**" No. 3 (Treadle)	6 10 0	3 0 0
The "**COMMERCIAL FAMILY MACHINE S**"	5 5 0	2 15 0
The **ditto** Hand **ditto**	4 4 0	2 0 0

Mangles and Washing Machines at full Discount. MOTHERSILL'S **Patent BICYCLES** 35 per cent. off List Prices. Lists of Prices on application free.

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The Trade and Shippers (only) Supplied.

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ALSO AT 457 AND 502 KINGSLAND ROAD, LONDON, N.

The TRADE and SHIPPERS supplied with every description of Sewing Machines upon the most liberal terms.

Hand Machines, from 18s.

Treadle Machines with all the most recent Improvements.

LOCKSTITCH, ANY SYSTEM, WARRANTED FROM 50s.

Agents wanted throughout Great Britain and the Colonies.

Catalogues and Terms upon Application.

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REFINERS;

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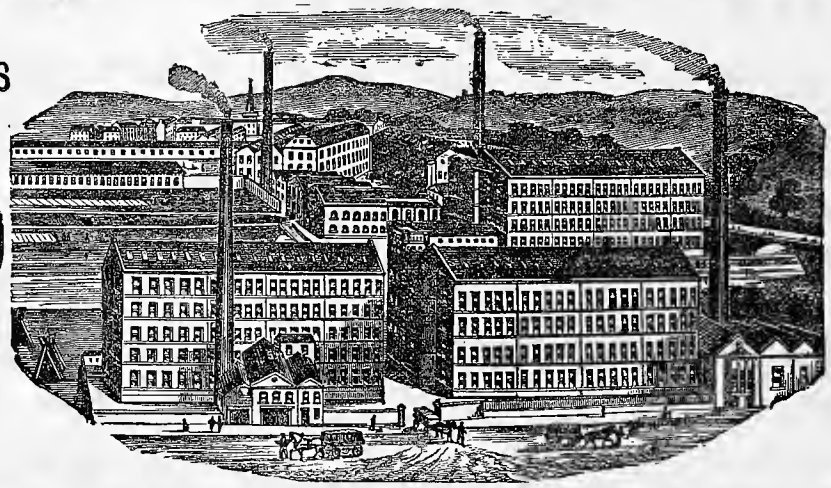
MAKERS OF SPECIAL SEWING MACHINE AND BICYCLE OILS.

Wholesale and for Export.

Finlayson, Bousfield & Co.'s

WAX MACHINE THREADS

SOLE SEWING MACHINE THREADS



CABLE LAID THREADS

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MACHINE LINEN THREADS

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CELEBRATED OVER THE WORLD,

And acknowledged by the leading users to be the

BEST LINEN THREADS EVER MADE.

LONDON; 1851;

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Prices and Samples free on application to

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The Only Gold Medal for Boot and Shoe Machinery Awarded at the Paris Exposition was for the Machinery of

THE BLAKE & GOODYEAR

BOOT AND SHOE MACHINERY COMPANY,

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THE

BLAKE SOLE SEWING MACHINE

ON TERMS, WITH OR WITHOUT ROYALTY.

A GREAT VARIETY OF MACHINERY

FOR

HEEL NAILING AND TRIMMING,

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SELF FEEDING POUCHES, RAND AND WELT CUTTING,

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SELF-FEEDING EYELET MACHINES,

STRAIGHT AND CIRCULAR BEADERS,

And a great variety of other Machinery and Patented Tools.

MANY OF OUR MACHINES MAY BE SEEN IN MOTION,

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Raw Hide Mallets & Hammers for Shoe Manufacturers & Machinists.

ROLLERS, PRESSES, KNIVES, AND IRON OR WOOD LASTS.

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HILLMAN, HERBERT, & COOPER,

Works:—COVENTRY.

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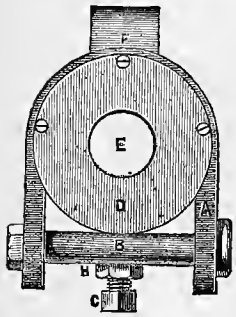
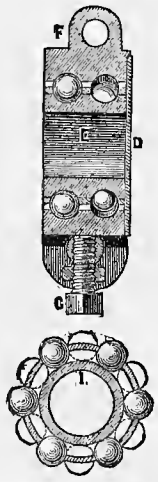
"D. H. F."

"Premier," "Flying Dutchman," & other Bicycles & Tricycles.





PATENT DOUBLE

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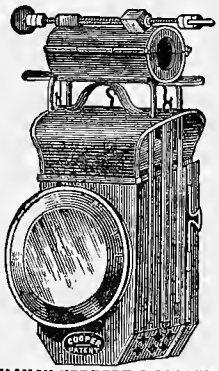

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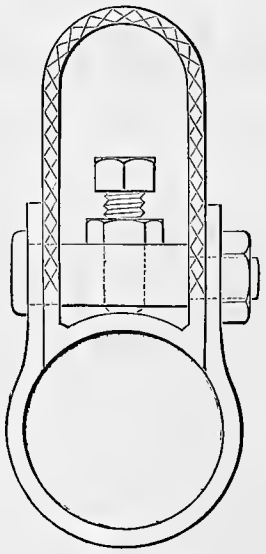
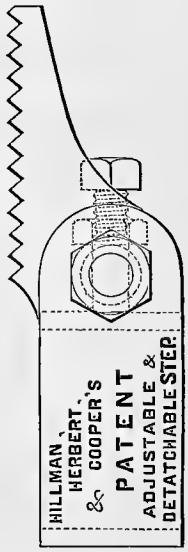
The only Lamp that does not go out on a rough road.





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SEND FOR CATALOGUE FREE.

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Please send another large size "Cooper's Patent" Lamp, so that I may get it to-morrow. It is the grandest thing in Lamps that I have ever seen or tried.—Yours truly, W. Tattersfield.

Dear Sirs, Brighton, December 27th, 1880.

We have much pleasure in testifying to the excellence of "Cooper's Patent Lamps," which give great satisfaction.

Yours truly, H. Revell Reynolds, jun., Dark Blue B.C., and L.B.C.
E. K. Revell Reynolds, Dark Blue B.C.
L. B. Reynolds, L.B.C.

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THE "DESIDERATUM" BICYCLE,

(FOR SEASON 1880.)

PATENT SELF-ADJUSTING STANLEY HEAD (which cannot get out of order).

PATENT NON-CORROSIVE SPOKES.

IMPROVED ADJUSTABLE ROLLER, or Ball Bearings.

IMPROVED ADJUSTABLE STEP.

IMPROVED DUSTPROOF CONED BEARINGS to Back Wheel & Ped

"Few makes are now better known than the "Desideratum"; certainly we have received more inq concerning it than any other Machine, and although a large number of our readers must be mounted on this stee *have never yet heard a single complaint regarding it.*—" VIDE *Bicycles of the year* 1878.

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HOLROYD'S NEW PATENT KILTING MACHINE

Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

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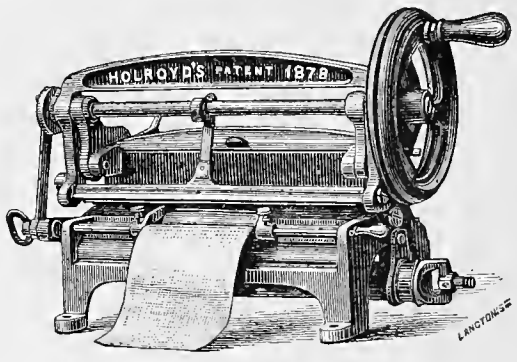
It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



Price, complete with gas arrangements and 4 heating irons, £3 3s.

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Combining all the latest improvements in **GILDING, BRONZING, &c.,** on rough or smooth surfaces, on any kind of metal goods.
Special Terms offered to Manufacturers of articles suitable for plating.

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SUPERIOR SIX-CORD CROCHET COTTON, on Spools, in Skeins, and in Balls, for Sewing, Knitting, and Crochet, which is especially recommended for all "first-class Crochet Work;" also for Guipure d'Art and Point Lace.
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MANUFACTURED BY

The Howe Machine Company,

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EXPRESSLY FOR BOOT & SHOE MAKERS,

FOR

SADDLE AND HARNESS MAKERS,

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Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

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"HOME" WASHER - - - FIRST PRIZE
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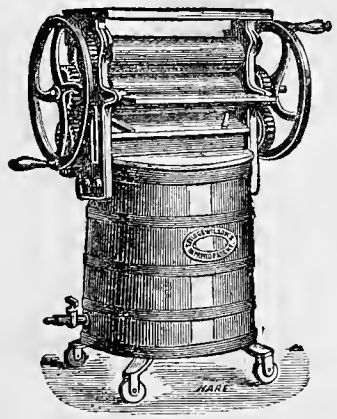
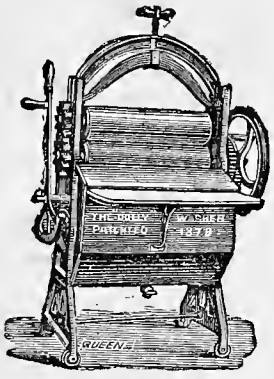
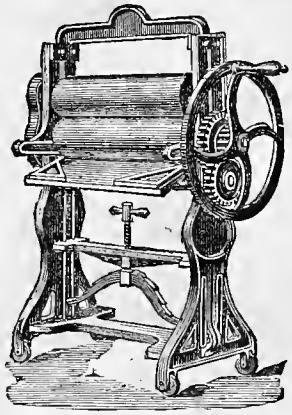


Price, £6 : 6 : 0.



Price, £3 : 10 : 0.



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Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

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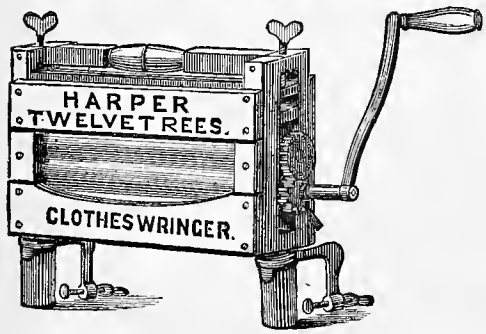
Clothes-Wringers! Clothes-Wringers!!

HARPER TWELVETREES'

INDIA-RUBBER CLOTHES-WRINGERS,



WITH COG-WHEELS,

Strong Frames, Metal Bearings, Adjustable Claspers, and other great improvements, have maintained their supremacy for eighteen years as the "Gem of Clothes-Wringers." They will fit tubs of every shape, and wring the largest as well as the smallest articles dry instantly without labour, dropping them into the basket nearly dry enough to iron or mangle. These well-known and much-prized Clothes-Wringers are specially adapted for the heavy, constant work of laundresses, and are immensely superior to the slightly-made delicate American Importations.

Prices: 30s., 40s., 50s., or without Cogwheels, 25s., 30s., 35s.

Harper Twelvetrees' Cheap Fifty-Shilling Mangle and Wringer, 24-inch Rollers.

Wholesale Quotations, Post free, from

HARPER TWELVETREES,

Laundry Machinist,

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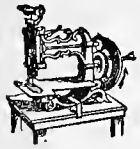
RAYMOND'S

CANADIAN SEWING MACHINES.

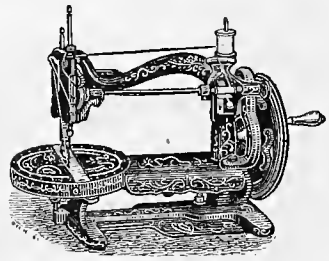


£2 2s. Complete.

This Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—James G. Weir, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. Charles Raymond.

BEWARE OF ALL COUNTERFEITS.



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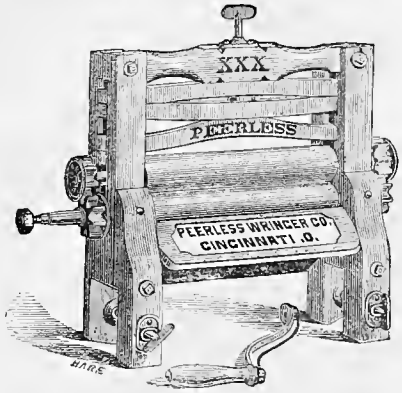
THE "PEERLESS" CLOTHES WRINGER

Is the leading Wringer of America

AWARDED THE FIRST PRIZE *Wherever it has competed.*



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The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

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8, PLACE VENDOME, PARIS.

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THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0 0
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Two Man	35 0 0
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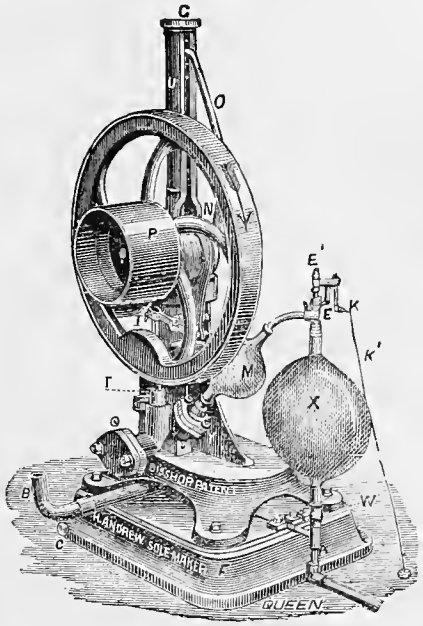

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WASHING MACHINE

£2 15s., OR WITH

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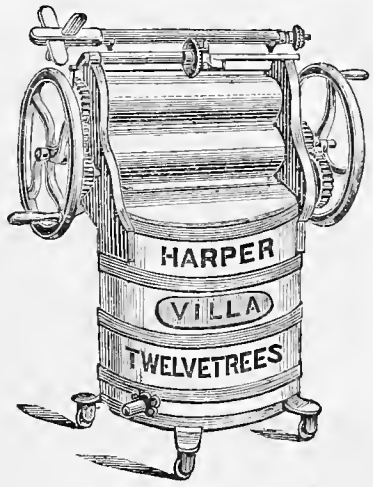

Does the Fortnight's Family Wash in Four Hours, without RUBBING OR BOILING, as certified by thousands of delighted purchasers It is easy to work, easily understood, strongly made, durable, does not injure the clothes, but really saves them; and is the only Washing Machine in the world which renders Boiling unnecessary, and saves five or six hours of coppers firing each washing day. The Five Guinea "Villa" Washer possesses tremendous washing power, and will wash 15 dozen collars and ladies' cuffs in five minutes; 150 pocket-handkerchiefs in five minutes; 60 hotel table cloths in an hour; 10 dozen bedroom towels per hour; 3½ dozen shirts per hour; 1½ dozen sheets per hour, and counterpanes, blankets, curtains, &c., in proportion. Such success is unparalleled! Illustrated Prospectuses and Export Quotations post free of

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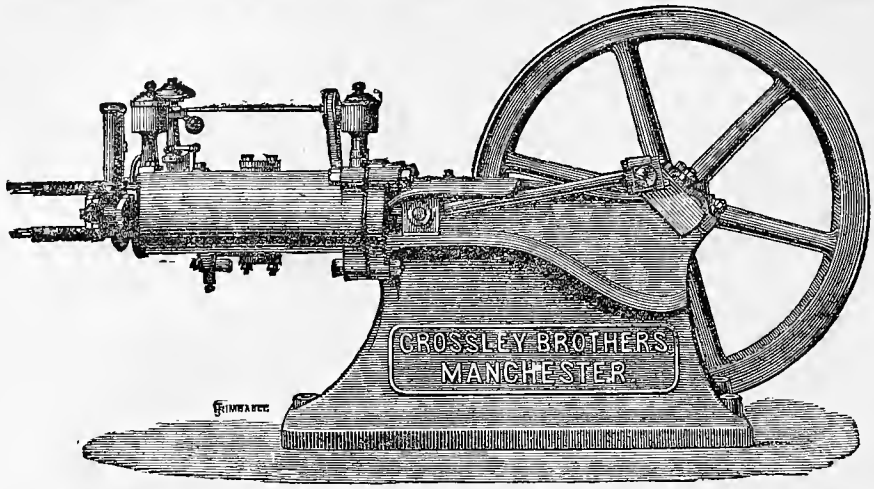
MORE AGENTS WANTED.

Sole London Agent for Kenworthy's "Paragon" Washing Machine.

An Engine which works without a Boiler or Steam.

AVERAGE MONTHLY DELIVERY (including Continental) OVER 180 ENGINES.



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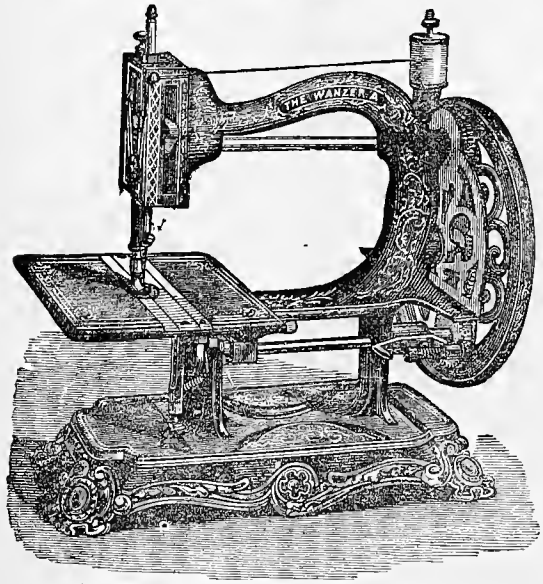

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Great Mechanical Success of the Age.
It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

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First Prize Medals, Honours & Awards, wherever Exhibited.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

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WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

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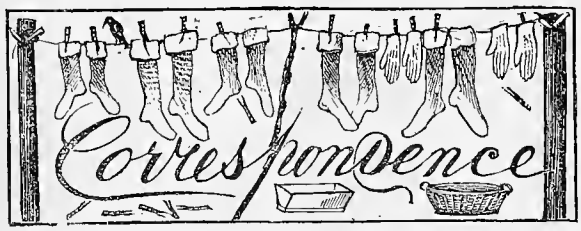
KITCHEN BOILER EXPLOSIONS.

Deaths from the explosion of boilers in private houses have been so lamentably frequent during the present hard frost that they form an important feature of the public calamity. More serious, however, than the actual number of such accidents that have occurred is the danger which every house with a boiler in it runs from day to day. Some thirty lives have been lost from this cause, and the reckoning is dreadful enough to contemplate; but many thousands are living on with the very same peril of explosion present in their kitchens, and at any hour, by the wilfulness or stupidity or carelessness of a servant, or by the neglect of the plumber called in to see that all is going well, the boiler may burst, wrecking the kitchen and killing those in it, bringing down the floor above, and spreading ruin in an instant throughout the lower stories of the house. It is difficult for householders and families to understand this. They are so accustomed to their boiler, the familiar feature of the kitchen range, that they can as little connect death and havoc with it as with the cat upon the hearth. If the cat were suddenly to develop into a man-eating tiger, to rush with a roar upon the kitchen-maid and fell her to the ground with a single blow of its paw, she would be greatly surprised. But even such behaviour as this would not astonish her more than the bursting of the boiler. In a general way she knows that boilers burst occasionally; but then these are somebody else's boilers and not her own, and it does not seem to enter within her vision of the possible that the machine of which she herself has charge should suddenly some day go off with a bang, and blow her into atoms. So she listens blandly to all her master's explanations and exhortations, and promises obedience; but, the moment his back is turned, she proceeds to draw "just a little" water out of the familiar tap, to save herself the trouble of boiling a kettle, and, when going to bed, rakes out the kitchen fire, and lays it ready for the morning, so that her cold fingers next day may have as little to do as possible. In vain has her master tried to explain to her carefully that within the week a kitchen-maid in St. John's-wood has been killed by a boiler exploding which has been unduly emptied, or a cook at the East-end blown to pieces when relighting the fire, which had been allowed to go out too early overnight. She understood his warnings as referring to some very vague possibilities that might have happened in some remote period of time; at all events, as to something that could never occur to herself. So she goes on her way complacent and self-satisfied, until one day the kitchen requires a new boiler and a new cook.

Though under such circumstances blame, no doubt, is to be attributed to the servants, much, nevertheless, depends upon the master and the mistress of the house. In the first place, the kitchen boiler can always be rendered harmless by emptying it, and by keeping it empty until warm weather sets in. Of course, in that case, the kitchen fire must be allowed to go out, and must not be re-lit, or the empty reservoir will split with the heat, and, though not dangerous to life, will be costly to the purse. It is not, however, in every household that the extinction of the fire can be borne, for, however amusing it may seem in theory to live picnic fashion all over the house for a few weeks, in practice the absence of the kitchen fire proves a very severe trial all round, both in point of comfort and temper. When, however, life and limb are concerned, even the inconvenience of a cold hearth are not considered by some to be too great a price for safety, and so, in spite of the unconcealed contempt of the cook, the disgust of the housemaid, and the consternation of the cat, the kitchen fire is allowed to die out, the boiler drained empty, and desolation formally takes possession where comfort used to sit enthroned. At this price safety may be absolutely assured; but human nature is so constituted that, even for safety, such a procedure as the extinction of the kitchen fire will not generally approve itself. Next, in point of security, comes the device of keeping the cistern that supplies the boiler always filled, and taking care that no water is ever drawn from the boiler. By this means the heat of the boiler is kept as nearly as possible at its maximum, and the greatest resisting power is given to the steam. But even here there is a flaw for frost to work mischief in, for, unless care is taken that the steam escape-pipe, wherever it may be, is thoroughly free, that all-important orifice may suddenly become caked with ice, and explosion naturally results. Or, again, it may happen that in the night hours, when the kitchen fire has gone out and the frost is at its hardest, the pipe somewhere or another will get frozen, the steam will gradually collect into ice, and the result to the boiler will be the same—immediate explosion. To this end builders often carefully work, for they will run the pipes, quite unconsciously, as near the outer air as possible, and subject them, therefore, to all the freezing influences that they can, instead of carrying them warmly and safely up the cornets of the wall inside the house, where they would not only escape the perilous cold, but would be always under easy observation. It may be, too, that the waste-pipe from the bath-room upstairs debouches upon the leads, and to take it out a hole has to be made in the outer wall. Alongside the waste-pipe runs the other, in which the hot water circulates between the boiler and the bath, and this also passes over the hole which has been made; but it does not occur to the builder's men that a basketful of cement would be well spent in stopping up this hole, and so prevent the freezing blast from playing full upon the hot-water pipes, upon whose heat the safety of the house depends. They leave the hole open, and, when the freezing blast does blow, the heat of the pipes and the cold of the air fight it out all through the long night by themselves, while the house, unconscious of the explosive force struggling for freedom, sleeps on. Next morning the plumber, called in to explain the mystery of cold water in the bath, announces to the astounded family that they have escaped disaster by a miracle. "The hot pipe, you see, did not manage to get quite froze through. Perhaps you weren't using so much hot water overnight as usual; anyhow, the boiler's not busted, thank's to luck."

Of such accidents as these—the successful defence of a hot-water pipe against the siege of a freezing wind, a bucket or two of hot water more or less drawn from the boiler overnight, an hour or two less of the kitchen fire on a certain day, an intelligent bather suspecting the chill on the water—does the safety of life and limb depend in this frosty weather. It is well, therefore, to have warnings and advice of experienced men made as public as possible. The ordinary household boiler, says one of these, situated in the kitchen, and supplying water to a bath-room in the upper part of the house, is very much more dangerous than any locomotive or steam launch that was ever yet constructed. It is set up by builders who know nothing of dynamics, is carefully tucked up out of sight, so that it can never be tested or examined, and finally it seldom has any safety valve. The only wonder, therefore, is that these boilers do not explode more frequently than they do. They should be of copper, instead of, as is usual, iron, for copper when exploding only tears and splits, while iron bursts with terrific force. In frosty weather the pipes above get choked, and the steam is unable to force the hot water through them, so it collects until the pressure becomes greater than the boiler can bear, and the boiler bursts. This is exactly what has happened in a score of houses in London already. One incident of these catastrophes, however, deserves special notice, for it is unfortunately the case that most men and women, rather than trust to their own intelligent judgments, place themselves in the hands of plumber's men, who work simply by the rule of thumb, and who, because they have done one thing in one house, do exactly the same in the next, though the circumstances of the cases may be scientifically quite different. Such a workman as this came to a miserable end at a house in Blackheath. He was called in to see a boiler which had been standing empty for some days, and proceeded at once to light a fire. The master of the house warned the man of the danger of lighting the fire; but the unhappy plumber only replied that he "knew all about it, as he had put in the boiler when the house was built." It did not matter to him that when he put in the boiler and lighted the fire the last time it was midsummer, and not an unprecedented frost. He only remembered that he had himself put the boiler in, and that to test it he had lit the kitchen fire. So he did exactly the same again. He filled the cast-iron bomb-shell with water and set it boiling, the steam was generated and tried to escape. But upstairs the frost had caught it. Both pipes were plugged up hard with ice, and the steam

gradually gathered in terrible strength behind the grate; and then, all of a sudden, while the wretched plumber was actually standing before the fatal fire, exploded with awful force, wounding him so severely that he died almost immediately. Householders, therefore, should remember that the advice of working men, let them be never so familiar with pipes, is no guarantee of safety, and that they must in some measure rely also upon their own common sense. If they wish to be absolutely safe they must empty their boilers; but they can still be as safe as ordinary care can make human life under exceptional circumstances, if they will see that the boiler is kept regularly filled. If the pipes of the upper cistern are frozen so that no water reaches it from the main, they must see it kept partially filled by hand, and if the handle of the kitchen boiler can be taken off so much the better. Temptation is thus removed from lazy or careless servants, and one more chance of safety is secured. Yet, after all, the great lesson conveyed by the epidemic of explosions is that valuable one recently taught by the outbreak of fever in certain London localities—more caution and self-reliance among householders. A glimmering of the great truth that they must see to the state of their drains before they take a house has begun to steal gradually over the public; but they have now to remember also that they ought to acquaint themselves with the position and conditions of the kitchen boiler and its pipes. A drain plan will, before long, we hope, be a regular accompaniment of the lease engagement, and some day, perhaps, we may expect also to see landlords compelled to place copper boilers where there are now iron ones, and to give them safety valve.



KITCHEN BOILER EXPLOSIONS.

To the Editor of the Sewing Machine Gazette.

Sir,—The usual list of killed and wounded from this cause has already far exceeded its average annual proportions. Why such a cumbrous and costly mode of heating baths is persisted in is difficult to tell, but it is probable that until the plumber is made liable to be brought up for manslaughter there will be no change. The average Briton is far too conservative to give up an old system for a better. There is not the slightest reason why a kitchen or bath boiler should ever explode if properly fixed, by a plumber who has the smallest amount of common sense. There are two simple ways by which an explosion can be totally prevented—one by fixing a dead weight safety valve which should be for convenience fixed when the apparatus is put up first. The other is to cut a hole in the hot water return pipe a little distance above the boiler, this hole being from ½ inch to 1 inch in diameter, and to solder over this a piece of sheet lead about 1-32nd inch thick, just sufficient to safely stand the general water pressure, making in fact a weak place in the system of pipes which will be the first to give way. This hole must be cut in such a position that the pipe is certain to be warmed from the fire, and as near as possible to the boiler. It must also be where, in case of the sheet lead being blown out the water will not be thrown into the room, but into the fire so as to extinguish it. Any plumber should do this for a shilling or two, and although it is liable to make a mess it only does this when an explosion would occur in its absence. It is also easy to put an escape pipe through which the water could be led away to the outside of the building in case of accident. This thin lead safety disc might be made so as to fix in a brass socket and be easily replaced if an accident did occur. The whole system of circulating boilers as at present fixed is radically wrong, as, with few exceptions, the hot water is rarely to be got when wanted in any quantity, and the cost in fuel expended is utterly out of proportion to the useful result obtained. There are many simpler, cheaper, and more satisfactory arrangements which can be fixed at less than one-tenth the cost, and of all these the best is a galvanized iron or copper cylinder of about eight gallons capacity, with a tap, and a good gas heating burner underneath it, the cylinder having a loose lid and a water supply tap over it for filling as required. After some months' daily experience with this there is no doubt that it is far cheaper to use than the circulating boiler system, and far more useful for general work. It has also the advantage of absolute safety under any possible condition. In case of a stoppage preventing the use of the kitchen fire, the use of gas for cooking prevents the slightest difficulty or inconvenience. This has now attained such perfection that it is more than probable that a good gas cooking apparatus, even if got as a makeshift, will quickly find its proper place, and permanently supersede the fire for all work. It is generally considered that circulating boilers with a reserve cylinder are safe from explosion. This is a mistake, as a case where the cylinder burst and flooded a house has come under my notice within the last few days, and this is by no means the first accident of the kind which I have known.

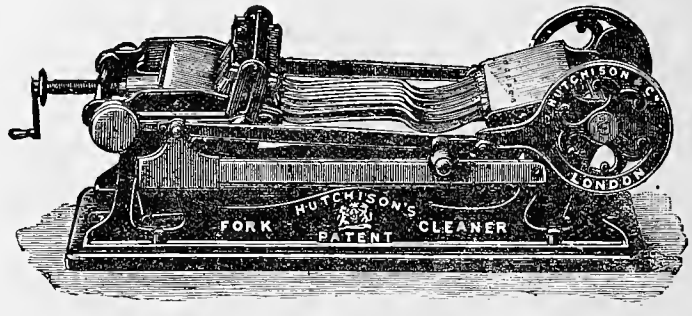
Thos. Fletcher, F.C.S.

4, Museum-street, Warrington.

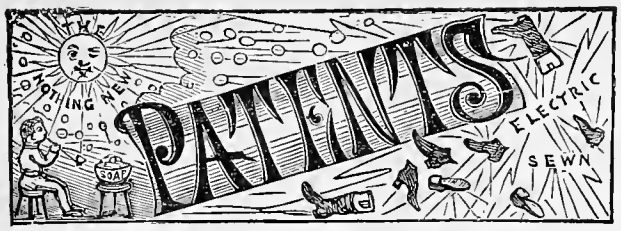
I shall be glad to give any further information on this matter to those interested, but must desire that any letters shall be as concise as possible.

HUTCHINSON'S PATENT FORK CLEANING MACHINE.

This compact useful labour-saving machine is constructed to polish six silver or plated forks, either large or small, at one operation, by means of two soft brushes (one beneath and the other above the forks), being made to travel horizontally with a soft and uniform pressure evenly distributed over the forks. The placing in of the forks is done in a most simple manner—the small handle at the end of the machine is turned once from right to left, which operation brings out two little slides or ledges projecting sufficiently far enough under the extremities of the forks to allow them to be placed thereon, the handle is then turned back to its original position, and by this simple motion the slides are withdrawn, and the forks remain held from tip to tip, between flexible keys backed by springs; the



forks are thereby held in a secure and harmless manner, and without rigidity. The paste having been applied and the large handle turned a few times, the forks may be taken out with a most brilliant polish, without the slightest injury. The handle can be turned either way, it being immaterial which. We do not recommend this machine merely for the great amount of time and labour saved by it (which, nevertheless, is estimated at a greater proportion than six to one), but also for the preservation of forks, as it is well known that the prongs often sustain injury by the uneven pressure brought to bear upon them when cleaned by hand. We think the machine does its work admirably; it is quick in action, economical in paste, and is certain to produce a brilliant polish. The manufacturers are Messrs. Hutchinson and Co., 51, Fann-street, Aldersgate-street, E.C.



The following List has been compiled expressly for the "Shoe and Leather Trades' Chronicle," by G. F. REDFERN, *Patent Agent, 4, South-street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 5,318. F. Cutlan, of Cardiff, for improvements in heel-paring machines for boots and shoes, applicable also for burnishing. Dated December 18, 1880.

„ 5328. T. B. Dryhrough, of Edinburgh, for improvements in the construction of skates, and in boots or shoes to which skates are or may be applied. Dated December 20, 1880.

„ 5,334. H. J. Haddon—a communication from B. F. Larrabee, of Boston, United States, for improvements in machinery for burnishing the heels of boots and shoes. Dated December 20, 1880.

„ 5,341. G. W. Von Nawrocki—a communication from E. Fischer, of Kaltwasser, and M. E. Cohn, and Wolheim, of Berlin, both in Germany, for improvements in the manufacture of imitation leather or leather cloth, and in apparatus therefor. Dated December 20, 1880.

„ 5,359. L. F. de Cuignièr and J. N. Long, both of Hoxton, London, for improvements in boots and shoes. Dated December 21, 1880.

„ 19. E. Harnett, of Aldershot, Hampshire, for improvements in boots. Dated January 3, 1881.

„ 36. H. H. Lake—a communication from J. Hitchcock and D. C. Knowlton, both of Boston, United States, for improvements in the manufacture of wire nails for securing the soles of boots or shoes, and in machinery for forming and driving such nails. Dated January 4, 1881.

„ 44. T. E. Hardy, of Battersea, London, for coriacine, or an improved artificial leather. Dated January 4, 1881.

Letters Patent have been issued for the following:—

No. 2,598. A. Balme and W Hall, both of Leeds, for improvements in machinery or apparatus employed for "lasting" boots and shoes. Dated June 5, 1880.

„ 2,738. C. D. Abel—a communication from J. and C. Ballatschano and H. Trenk, all of Berlin, for improvements in tanning hides and materials for that purpose. Dated July 5, 1880.

„ 2,820. C. H. Pugh, of Birmingham, for improvements in studs or protectors for the soles and heels of boots and shoes and other coverings for the feet. Dated July 9, 1880.

„ 2,839. S. F. Cox, of Yatton, Somersetshire, for improvements in tanning hides and skins. Dated July 9, 1880.

„ 3,534. F. Wirth—a communication from C. Heinzerling, of Frankfort, Germany, for improvements in tanning or converting hides or skins into leather. Dated August 31, 1880.

, 3,583. A. M. Clark—a communication from C. J. P. Desnos, of Paris, for an improved depilatory process for sheep and other skins and hides. Dated September 3, 1880.

„ 4,324. S. Haley, of Bromley, near Leeds, for improvements in machinery for "fluffing" and "whiting" leather skins. Dated October 23, 1880.

PATENTS WHICH HAVE BECOME VOID:—

„ 4,701. J. Keighley, of Blackpool, Lancashire, for improvements in the manufacture of soles for boots and shoes. Dated December 11, 1877.

No. 4,770. G. Jackson, of Leicester, for improvements in the manufacture of boots and shoes. Dated December 15, 1877.

„ 1. W. R. Lake—a communication from J. Dalton and G. Simon, both of New York, United States, for improvements in adjustable heels for boots and shoes. Dated January 1, 1878.

„ 38. H. J. Haddan—a communication from B. F. Larrabee, of Lynn, Massachusetts, United States, for improvements in shoe heel and edge burnishing machinery. Dated January 3, 1878.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

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No.	1,957.	W. A. Barlow, apparatus for the production of boot heel irons, &c.	0	8
„	2,086.	J. Bailey, shoe brushing apparatus	0	4
„	2,107.	C. King, boots and shoes	0	2
„	2,138.	W. Clark, heel stiffener for boots and shoes ...	0	6
„	2,158.	B. Birnbaum, fastenings for leggings and gaiters, &c.	0	4
„	2,352.	J. W. Jones and E. K. Bridger, metal heels &c., of boots and shoes	0	6
„	2,364.	O. McC. Chamberlain, fastener for boots, shoes, &c....	0	2
„	2,377.	W. R. Lake, waterproofing, strengthening, and preserving leather, hides, &c....	0	4

AMERICAN PATENTS.

ISSUED AND DATED NOVEMBER 30, 1880.

No. 234,869. C. H. Helms, Poughkeepsie, N.Y., sole-edge trimmer for boots and shoes.

„ 234,912. H. P. Fairfield, West Medford, Mass., lasting machine.

„ 234,960. C. E. Clark, Rochester, N.H., lasting jack.

„ 235,000. W. Miller, Boston, Mass., metallic socket bushing for lasts.

„ 235,050. S. W. Wardwell, jr., Providence, R.I., manufacture of sewed articles of leather.

„ 235,054. D. W. Gatrall, West Union, W.Va., combined boot jack and stand.

ISSUED AND DATED DECEMBER 7, 1880.

No. 235,131. J. W. Cubhage, Gallipolis, Ohio, leather scouring and wringing machine.

„ 235,172. H. P. Roberts, Jamestown, N.Y., leather skiving machine.

„ 235,249. J. M. Jones, Wrexham, North Wales, England, leather fluffing or grounding machine.

„ 235,262. J. Leycuras, Paris, France, heel for boots and shoes.

„ 235,271. T. McWaters, Washington, D.C., shoe and hame fastener.

ISSUED AND DATED DECEMBER 14, 1880.

No. 235,377. G. R. Peare, Lynn, Mass., boot and shoe sewing machine.

„ 235,402. G. D. Atkins, Erie, Pa., device for exhibiting shoes.

„ 235,442. A. C. Krueger, Chicago, Ill., machine for treating raw hides.

„ 235,541. A. Leonard, jr., Plymouth, Mass., shank stiffner for boots and shoes.

„ 235,588. A. Teas, Newark, N.J., machine for cutting leather and pasteboard.

ISSUED AND DATED DECEMBER 21, 1880.

No. 9,504. J. A. Ambler, Natick, Mass., mechanism for abrading and polishing boot and shoe soles. (Re-issue.)

„ 9,514. J. A. Stockwell, Chicago, Ill., toe protector for boots and shoes. (Re-issue.)

It is said that it is about as hard to hide your love as to hide a sneeze; neither of them can be repressed.

Conductor (declining a tract which was offered him with his fare): Very much obliged, mum, but we ain't allowed to take any perquisites whatever mum.

HINTS TO REPAIRERS.

(By "Cog-wheel," in the *Sewing Machine News.*)

THE WHEELER & WILSON.

Before removing the cloth-plate from the W. & W. No. 2, examine the needle-arm to see if it is as tight as it should be in all joints connected with it, and whether the needle plays truly in the centre of the hole in the cloth plate. At the same time be careful to see that the needle plays as near to the point of the rotary hook as possible without touching it. The four points concerned in holding the needle-arm steady are: The screws in the eccentric under the cloth-plate; the screws in the joint of the short lever; and the two set-screws upon which the rock-shaft hangs. Take hold of the forward end of the needle-arm and try if it will shake up and down. If it is loose, ascertain at what point the correction must be made. It will not answer to do this by guess, because if any one point be tightened more than is required to steady the parts and keep them from rattling, the machine will run too heavily. Close them up carefully, until no looseness in the needle-arm can be felt.

After adjusting the set-screw in the hinge of the short lever as tightly as perfect freedom of motion in the hinge will admit of, we come to an adjustment of the short lever upon the rock-shaft, of vital importance to the perfect operation of the machine. To do this readily and with certainty, every teacher or adjuster should be provided with a gauge, by which to adjust the play of the needle-arm both upward and downward. This is governed entirely by the position of the short lever on the rock-shaft.

New machines are generally set right in this respect, but old ones frequently need resetting. The gauge should have two points, defining respectively the exact limits of both the upward and downward play of the needle-arm. The upper and lower edges of the needle-yoke should be made to touch two points of the gauge as the latter stands upon the cloth-plate. The downward play must be exactly according to the gauge; the upper may vary a little without material injury. In order to give the proper upward play to the needle-arm it is sometimes necessary to put a small bit of card paper between the upper edge of the rock-shaft and the short lever; but as this takes off part of its downward motion, it is necessary to slip the short lever a little higher up on the rock-shaft in order to restore this before tightening the screws. In tightening this screw care must be used to have the short lever exactly plumb and true.

TIMING THE MACHINE.

Timing the machine, as it is technically called, or, in popular language, harmonising its movements, like the tuning of a musical instrument, is of vital importance, and should always be done with the most scrupulous exactness. The needle-arm having been carefully adjusted by the gauge, and the needle properly set, you may first apply a test of the timing it has already received. This may be done by sewing two pieces of cotton cloth together, and carefully watching the loop as it is cast off the rotating hook. Sew an inch or two at an ordinary speed, and then slacken up to a very slow motion, so that you can stop at the very instant the loop falls over the cast-off. At that point look out for the eye of the needle. If it stands the thickness of your needle-wrench above the cloth you are sewing, it is right. If the eye is more than this above the cloth the time is said to be too fast; that is, the loop falls off too quickly, or before the needle has had time to reach its proper position. Loosen the screws in the pulley, and set the rotating hook a little back.

Continue this test, and this correction—moving the hook forward or backward, as may be required—until the proper adjustment is reached.

THE LOOP-CHECKS.

Their use is, as their name indicates, to check the motion of the large loop of the upper thread as it is being carried around the bobbin by the rotating hook, until the point of the hook enters another loop just then being formed at the needle: In order to check the motion of this large loop effectually, it is necessary that the loop-check shall rub gently against the periphery of the hook upon which the loop lies. The loop is thus held back an instant, while the hook moves on to take another loop from the needle. Provision is made for the release of the loop at the proper moment by a bevelled portion of the hook, which does not touch the loop-check and thus afford space for the thread to pass between that and the hook. If from any cause, such as the wearing of the loop-check, or from being moved out of its place, it fails to check the loop, the loop will be caught a second time by the hook, and the machine will stop, or the thread will break with a jar that you can hear.

When the thread breaks from this cause, you may always know it by the jar, as well as by the break always occurring about two inches from the needle. To correct this, move the loop-check a little closer to the rotating hook, so that it will rub against it, and hold back the loop until the hook moves forward to the needle.

The brush should never be pushed up so far as to bend the bristles out to the side of the hook. The loop should be free to pass on so soon as the beveled part of the hook begins to show itself above the brush. If the brush should hold on to the loop longer than this it will cause loose stitches or loops to appear on the under side of the work. By closely watching the action of the brush on the loop while a few stitches are being sewed it can readily be seen when the loop is held too long. The brush segment should be about a quarter of an inch from the bed-plate.

In old machines the needle-hole in the cloth-plate is often found to be worn into a notch on the far side of the hole by the action of the thread and needle. This notch is sometimes so deep as to catch and hold the loop of the thread and stop the work from feeding forward. Sometimes it only catches the loop occasionally, holding it long enough to permit its being drawn up, and then letting it go, thus causing loops at intervals along the sewing. This notch, and any other roughness about the needle-hole must be removed, or a new plate, or plate-slide, substituted.

Have the tension in all its parts clean and free from oil. Examine the slide-ring, see that it is not too tight or too loose for the bobbin.

If one or both of the rounded portions always found between the inlet and outlet bevels of new slide-rings are found on the old ones to be worn off, they had better be rejected, as no adjustment of other parts, however perfect, will compensate for the want of a good slide-ring.

THE "TAKE-UP" OF SHUTTLE MACHINES.

To understand the "take-up," get a sewing machine in position, ready for use; then turn slowly and observe that as the needle descends the "take-up" holds the thread tight, until the eye is about to go through the cloth, and just as the eye is directly at the surface of the cloth, the "take-up" descends with the thread slack, and moves through the material down the long groove side of the needle. The loop forms and enlarges as the shuttle passes through, and the "take-up" draws up the slack thread.

While the loop is forming, the check-lever or take-up is held down until the point of the shuttle approaches the needle. When the needle rises the "take-up" follows.

If the "take-up" gives a slack thread before the point of the needle enters the goods, the stitch will be knotted and zig-zag. If the action of the "take-up" is not studied by beginners, it will be rather difficult for them to manage an old American Davis, or Grover and Baker.

To adjust the Singer "take-up" properly, first pass a thread through the eye of the needle, then place under the needle, in proper position for sewing, a piece of cloth; then let the needle descend until the thread in its eye is directly at the upper surface of the cloth, and bring the rod in the needle-bar flush with the upper surface of the check-lever. Having learned the principle of the "take-up" on the Singer you will be able to understand that of all other shuttle machines.

CLEANING SEWING MACHINES.

Kerosene oil or benzine are probably the best things known for the purpose of cleaning machines. When articles have become pitted by rust, however, these can, of course, only be removed by mechanical means, such as scouring with fine powder or flour of emery or emery-cloth.

POLISHING.

The best method is performed by the use of crocus on a buff

wheel; nothing can exceed the beauty imparted to steel by this process. There is no excuse for the repairers who do not get up a polishing machine. Polishing sticks are made by sticking emery-cloth to various sizes and shapes of sticks. To put emery on iron wheels, first give the wheel a good coating of oil and white lead, and when this gets dry, apply a mixture of glue and emery.

EMERY STRINGS AND POINTED STICKS.

These are used for smoothing out needle-plates, thread-guides, &c. Melt some good glue, dip any desired length or size of fishing cord in the glue, then lay it out on a board, cover it with emery powder, let it lay for twenty-four hours, then wipe off any loose emery. Pointed sticks go through the same process. Some hammer the emery into the wood; it is claimed that by this means it cuts better and lasts longer.

POLISHING AND DRILLING MACHINES.

Some repairers often wish for a polishing and drilling machine. Something that could be made without going to much expense. To make one at a small cost follow these instructions and it will also do the work of a lathe.

Take an old Wheeler and Wilson No. 2, take out every piece excepting the rotating hook, shaft and spindle, block the bed-plate up about four inches, force on a six-inch wooden polishing wheel on the spindle, as far as the bed of the machine will admit, put on an inch washer, then make a chuck to screw up against the washer, and cut off the remaining spindle. After that is done the rest will suggest itself.

FUNK'S METHOD OF RE-PLATING BRASS SLIDES, AND OTHER BRASS PORTIONS OF SEWING MACHINES.

The article to be plated is first rubbed with fine emery cloth, then a second rubbing with muriate of zinc, so as to have it clean of spots. Then heat the article to melting point of tin, put on a small piece of block tin, and rub it around where you want it plated, with an oiled swab. The plating appears as beautiful as if silvered. It can be burnished just the same as silver.

The heating of the article can be done over an alcohol lamp or a gas jet. A charcoal fire is the best.

SOLDERING.

Where gas is not used have on hand an alcohol lamp. In using the lamp roll out the solder or beat in thin pieces, lay them on the place to be mended, and hold the article over the flame; heat it sufficiently to melt the solder; when it melts, it will spread wherever the acid or rosin is applied. Fine solder consists of ten parts of tin and one of lead. The flux used to make the solder adhere and flow is made by putting all the zinc in muriatic acid that it will eat.

AMERICAN PATENT OFFICE REPORT FOR 1879.

The annual report of the Commissioner of Patents for the year 1879 has just been issued. In glancing over the issued patents for sewing machines and accessories, we find the following, which does not include all.

Sewing and embroidering machines, 3; sewing machines, 33; button-hole sewing machines, 4; button-hole attachments for sewing machines, 8; sewing machines darning attachments, 4; sewing machines for double-chain-stitch, 1; sewing machines embroidering attachments, 1; sewing machines feeding device, 4; sewing machines for embroidering, 2; sewing machine motor, 2; sewing machine needles, 3; sewing machine needle-bar, 21; sewing machine over-seaming attachment, 1; sewing machine plaiting attachment, 1; sewing machines quilting attachment, 2; revolving shuttle sewing machine, 1; sewing machine ruffing attachments, 2; sewing machine shuttles, 3; sewing machine take-up device, 1; sewing machine treadles, 5; sewing machine trimming attachments, 6; wax-thread sewing machine, 2; zigzag-stitch sewing machine 1; tuck-markers, 2; tuckers, 3. Also nine re-issues, and two trade marks. In knitting machines and accessories, thirty-three were granted. The number of patents issued in that year was 2,0771, of which 146 related to sewing machines and attachments.

BICYCLING IN AMERICA.

"In the *New York Herald* are the following few lines:—'A party of English bicyclists propose to visit the principal cities of the United States on their machines. If they come, great will be the rejoicing of the blacksmiths along the route. The boys should inform themselves about our roads before they buy their tickets.'

"Respecting the above I should like to say a few words. America is not England, and whilst the bicyclist could travel hundreds of miles at a time in England, Scotland, or Wales, he could not travel ten miles straight on any road in America. There is no such thing as a good road for any distance throughout the United States.

"In New York city he might be able to ride the great distance of two miles on a good road, that is, a road on which a bicycle could travel, but the streets in American cities generally are a disgrace to civilisation; and what can you expect of country places? If a tricycle or bicycle can be made to go into deep ruts, and out again up steep hills, like the side of a house, two feet deep in mud, then let the cyclist undertake the journey, not otherwise. Let the cyclist also remember that our cities are hundreds of miles apart. As regards the bicyclist's personal comfort, let me strongly advise him to bring the following with him, as he never can see them here: Bread, butter, matches, and fusees. The stuff sold as bread is of a spongy substance, and a man could easily eat a loaf of it without knowing it. The butter is mostly made at Chicago of tallow, or rather suet. There is only one kind of light sold, and that is the match made out of a rough piece of wood, with brimstone at the end, exactly the same as used in England twenty or thirty years ago, while fusees are unused here.

"After you leave New York comfort is unknown. The bicyclist on his journey through the States will hear as much, if not more, German spoken than English; so he had better lay by a good stock of this language. During his journey he will meet with the greatest kindness from the inhabitants; the Americans are a most kind-hearted and thoughtful people. He will see the most magnificent scenery if he goes from New York to the wondrous city (Chicago), for instance. If he wants to see beautiful cities, he must visit New York, Chicago, Cincinnati, and Denver. He will then view magnificent mansions, but bad streets. If he goes West he must not be afraid of being shot. This is a friendly way they have of greeting each other as you go westwards. He must not be struck at what he would consider cheek in England. In America all are equal, and the English bicyclist may often come across a cow boy who is so well educated that he can speak, read, and write four or five different languages.—Yours respectfully, "Birmingham Traveller.

"558, West 36th Street, New York, January 6."

ELECTRICITY AS POWER, LIGHT, AND HEAT.

Under the auspices of the Cleveland Institute of Engineers, an address was delivered at Middlesbrough on Monday, the 24th ult., by Mr. James N. Shoolbred, B.A., M.I.C.E. The illustrations used included a Siemens light, a Crompton lamp, a Gramme machine, and a number of Swan's lamps, for which the current was supplied from a Gramme machine when not working the Crompton lamp. The transmission of power was illustrated by a saw-bench, driven by a Siemens machine, which received its power from another Siemens machine. There was also a small printing-press actuated in a similar way, the primary power being supplied by a steam-engine, kindly lent by the Middlesbrough Corporation. That part of the address referring to the smelting of ore in the Siemens furnace was keenly examined. It was pointed out that the operation of smelting in that way was performed in about a quarter of the time employed in other methods. One pound weight of broken files was melted in thirteen minutes. It was shown that as to the efficiency of the furnace its power was about on a par with that of the regenerator gas furnace in melting steel. For instance, to melt a ton of steel a crucible required 2½ to 3 tons of Durham coke; the regenerator gas furnace required one ton of coal, and the open-hearth furnace required 12cwt. of the same. This was a direct

appeal to the interests of iron-masters, or rather steel producers, in Cleveland. Referring to Swan's (Newcastle) lamps, the lecturer explained that they produced incandescent lights. Other lamps worked with what was termed the voltaic arc, which was the highest development of the electric light, incandescent light having a less intense effect. The difference between the two was such that the latter produced an equivalent of 150 candles per horse-power, and the former from 1,000 to 1,200 candles light per horse-power. Treating of carbons, the lecturer said there was an increasing number of makers, greater homogeneity in product, and a lowering of price; but the chief probable improvement would be due to a combination of different size and quality, tending to a reduction in consumption and working expenses. General confidence had been established in this system of public lighting. Public companies would be set on foot for the distribution of these lights, while the legal impediments would be removed by application to Parliament from different parts of the country, when the Government might be expected to grant its permission. Local Corporations had no inherent power for such a purpose, as they had in the case of gas and water. The lecturer gave a scientific explanation of the electric light, including the means used for the generation and the utilisation of the magneto-electric current in the production of light. There has been a growing recognition of the fact that the magneto-electric current could be successfully and economically used in some circumstances in the reproduction of motor-power by means of its introduction. One of the most important points in the address as affecting the Association of Engineers referred to the motor-power of electricity. It was shown that electricity could be transmitted in such a way as to utilise a stream of water three or four miles from a given centre of operation by a current of electricity; also that in the case of a mine which was more or less inaccessible, power could be transmitted by the same means to the existing machinery. It was shown that at the Berlin Exhibition last year three or four tram-cars were run, containing 15 to 20 passengers. Each was propelled at a rate of 15 to 20 miles an hour up an incline. At the termination of the address there was an interesting discussion.—Mr. Harrison, agent for Mr. Siemens at Newcastle, referred to the Siemens lights used at Bolckow, Vaughan and Co.'s works, Eston. He said there were twelve at work, which cost 6d. per light per hour, including men's time, coal, oil, and waste.—Mr. Head, ironmaster, described his experience of Swan's light, as seen at Sir William Armstrong's residence at Rothbury, Northumberland. They had reason to be proud of Mr. Swan, as a North countryman who had solved the problem of using the light domestically, without waiting for an American to do so. Sir W. Armstrong was the first person who had actually applied the new light for domestic purposes. Near his residence there was a stream running, which turned a turbine which drove a dynamo-electric machine at his residence. There were 40 electric lamps, but only 37 of them were used at a time. Each lamp was in power equal to 37 candles, and could light all the lamps in two or three rooms, or throw the power all into one room. In the large library, reading at night by a single lamp was a simple matter, and the pictures just looked as in the daytime. The light was perfectly steady and harmless to the eyes. Mr. Head suggested the utilisation of gas in gas engines as a motor for an electric lighting power. It was certain that a great proportion of the gas used ordinarily was wasted in the form of heat not wanted. In this way such gas could be utilised. In the case of the Swan light there was a great loss in the burning by incandescent light from the subdivision of the same, but it conferred a great boon on the country. Mr. Head finally referred to the miner's lamp (Swan's) exhibited in the hall, which he said was calculated, from its complete immunity from causing danger in a coal-mine, to revolutionise the coal trade. Mr. Shoolbred, miner, afterwards explained that it was not free from danger, owing to the possibility of a fall of stone breaking the lamp and coil, and so causing an explosion.

"JOHN, what is that scar on your chin?" That scar? Oh, that's a relic of barbarism."

OPEN MEETING OF THE BICYCLE UNION.

The objection to this Union as professing to do its business in a hole-and-corner way cannot now be raised, as the meetings henceforth will be open, and all the world may know what is mooted and what decided at them. This is as it should be. The meeting of the executive took place last week at the Manchester Hotel, Aldersgate-street, when a moderate company of delegates and visitors were present, the following clubs being represented on the council:—Lombard, Cambridge University, London, Canonbury, Sevenoaks, Rye, Surrey, I Zingari, Belsize, Metropolitan, Druids, Pickwick, Westminster, Arion, and Highbury.

Mr. Scrutton (Cambridge University), took the chair, and after the hon. sec., Mr. R. T. Cook, had read the minutes of the previous meeting, the business of the evening proceeded as follows:—

Mr. Beningfield moved the first resolution, which was:—"That all subscriptions paid between the 1st January and the 30th April, in any year, shall constitute membership until the 30th April in the ensuing year, but that clubs so paying their capitation shall make a return of the number of their members on the 30th April in the year in which subscription is paid, and shall pay for any additional members according to Rule 3, sec. *k*." This was seconded by Mr. Godlee, and ultimately carried. The report of the executive to the council was ordered to be taken as read, and on the proposal of Mr. English, seconded by Mr. H. Turner, was adopted.

Then followed the introduction of the French amateur question, in connection with which Mr. R. T. Cook proposed "That the Council of the Bicycle Union cannot recognise as an amateur bicyclist any rider who has infringed their definition of an amateur whether in the United Kingdom or elsewhere;" and "That in the event of any foreign bicycle association admitting the Bicycle Union definition of an amateur, and condoning their past offence in their country, the Bicycle Union will be prepared to condone the offence." Mr. Cook intimated that he had corresponded with several Frenchmen upon the subject, which was one requiring a speedy settlement, but apparently opinion differed widely upon the matter in different parts of France. In the North of France cyclists were willing to accede to the ruling of the Union, while in the south it seemed to be the prevalent opinion that a gentleman rider should be allowed to "melt his pots" and race for money to the tune of his out-of-pocket expenses and still remain an amateur. Mr. Beningfield, in seconding the resolution, pleaded very hard in favour of those Frenchmen having "forgiveness" allotted them who were ready and willing to beg for it. Mr. Griffin attempted to draw a similarity between the proposed action of the executive and those effected by the skating and swimming associations in the past. Mr. Williams considered it would be derogatory in the eyes of the athletic world to allow foreign amateurs to compete against professionals. Mr. Blackwell thought the example of the Skating Association in condoning past offences should be followed. The Chairman was afraid the Amateur Athletic Association would hardly agree to this. Mr. Goodman wished to know whether Frenchmen would not want to institute similar amateur-professional contests to those sanctioned by the executive in England. Mr. Sargent considered that this opened up a very wide point, and without a doubt they would engage in these kinds of races. Mr. Trotter suggested that the French would have a right to do so as long as no prizes were given. The Chairman intimated that the necessary power for holding this kind of contest in France would be given, but only conditionally that it is not abused. The hon. sec., in replying upon the whole question, remarked that Frenchmen held an entirely wrong idea as to the meaning of the word amateur, and they thought it was used as some sort of a social distinction, whereas, as a matter of fact, it was a simple line drawn to designate those who raced for profit from those who raced without it. This he had explained in his last communication to the authorities, and he hoped if his resolution were passed that the whole thing would be amicably settled at the Union Velocipedique Francaise to be held on February 5. The resolutions were carried, and a copy ordered to be sent to the Amateur Athletic Association.

The following resolution was, after a lengthy discussion,

duly passed:—"That the following clause be added to the definition of an amateur: 'Bicyclists are cautioned that pace-making will be considered as included in the term competing, clause f.'" The meeting was then called upon to consider the proposition of Mr. J. W. Beningfield, "That in the opinion of the council it would be for the benefit of bicyclists to have uniform regulations for bicycle riding throughout the country, and that the executive be directed to take such steps as they may deem best to obtain this result." Mr. Beningfield, in introducing this subject, explained that it was necessary for bicyclists to go to Parliament for the purpose of obtaining uniform bye-laws for the whole country. Great inconvenience was experienced by the riders passing through eight or ten counties, each having different road regulations. Every bicyclist, he contended, was willing to carry both lamp and bell, but there were certain little fidgety details which it was necessary to have expunged before long touring could be engaged in with any amount of comfort. There was a chance of the Lords making certain alterations in the Highways Act, 1878, shortly, and then would be the time to requisition them in favour of improvements in the laws. Mr. English seconded the resolution. Mr. Goodon thought the best means of achieving anything like good results would be to try and gain the influence of the many members of Parliament who preside over bicycle clubs, &c. Mr. Round hoped before the executive moved directly in the matter a really model set of bye-laws would be drawn up and submitted to the whole body of bicyclists, not to have the thing settled without the general opinion and consent of riders being first obtained. The resolution being put from the chair, was carried unanimously. Mr. Trotter then resigned his position on the executive, on account of not having the time to attend the meetings. The resignation being accepted with regret, Mr. Scrutton was unanimously appointed to the vacancy. Mr. Blackwell put a question as to whether the executive intended to take any action with regard to the rise in railway charges. Mr. Beningfield undertook to bring it before the committee at their next sitting. A vote of thanks having been passed to the chairman, the meeting terminated.

THE NINE HOURS' SYSTEM AND FOREIGN COMPETITION.

A grievance often urged by manufacturers that the present system of short hours makes it impossible for them to compete with their foreign rivals, came once more up for discussion at the last meeting of the Derby Chamber of Commerce. The subject was introduced by Mr. Peters, who moved that the representatives of the Derby Chamber be requested to support the following resolution at the annual meeting of the Associated Chambers:—"That in the opinion of this Association the restrictions imposed by the Factory Act on the labour of women, young persons, and children operate with such serious disadvantage on those manufactures in which such labour forms an important element, that some of these latter have become extinct, or nearly so, in this country; and that the necessity for such restrictions is, at least, diminished by the compulsory enforcement of attendance at school. That a committee be appointed, consisting of manufacturers in every important branch of British industry, to inquire into and report on the effect produced by the reduction of the week's work to fifty-four hours, and on the ability of British manufacturers to compete with their rivals in countries where much longer hours prevail." Mr. Peters said that his object in moving this resolution was to strike at the root of the existing evil and to open the eyes of the country as to the true state of affairs. Under the present system they could not be expected to compete with foreign countries. Let them look at Bradford, where trade was crippled to a serious extent, and compare that state of things with the trade of France and Germany, in which countries the hands were working full time and overtime. In Germany they could afford to dye articles at a rate of 25 per cent. cheaper than in England, and that trade must inevitably be taken entirely out of this country if there were not some alteration in the hours of labour. In Germany they worked seventy-two hours a week, whilst in England they were only allowed to employ their hands fifty-four. He did not want the working men to earn less wages, but he did say that nine hours a day was far too short a time. He hoped the Derby Chamber would support him, although he was afraid that in London it would have no chance of passing. Alderman Longdon said he seconded the resolution, adding that he could endorse all that Mr. Peters had said in moving it. It was their duty to show the working men that they were placing themselves in a false position, for the trade would slip through their fingers, and go into foreign countries. Hon. F. Strutt said he did not propose to move an amendment, but still he thought they could hardly extend the hours of labour. However, he thought it was a right thing to call attention to the fact that they had not free labour, for what with the Factory Act and what with the Education Act, they had to be exceedingly careful, or else they would infringe the law. Alderman Hobson said such an alteration as they contemplated did not necessarily mean that they were to keep to the same wages they now paid, and the working men would therefore benefit in competition with the present arrangement. The resolution was ultimately carried.

WHAT CONSTITUTES BEAUTY IN DRAWING?

Beautiful drawing consists in exactly expressing the form and the nature of the object to be drawn. If it is a leaf or a flower, the drawing should be light and delicate. If a branch or bough of a tree, it should be firm, and free, and springy; if of rocks, it will be decided, perhaps hard; if of the human form, it should be firm yet flexible; if of drapery, it must possess a freedom, a loose quality, according to the nature of the material of which the drapery is composed; if of the face and expression, then the utmost delicacy and refinement is necessary. So we see in the first place, how a good draughtsman suits the handling of his pencil, or his brush (for painting is only drawing with a brush full of colour) to the nature of the object he is drawing; and hence we perceive that beautiful drawing is not a mechanical process, but a mental one. Bad drawing is merely mechanical; a bad draughtsman takes no pains to distinguish the character of one thing from another; there is no expression in his work; it is clumsy, without thought, and of little value. In a recent lecture, Mr. G. A. Storey, A.R.A., pointed out that in Nature's drawing there is a meaning in every variation of her outlines—she seems to have to think about it a good deal—if she is drawing a bough of a tree, she makes it start away from the stem, with a bold curve outwards, and generally upwards, expressive of the strength that will be required to bear its burden of leaves and fruit, &c.; and then, perhaps, it has to fight its way through other boughs and branches, and a sort of struggle for existence goes on, and yet in very good fellowship; the different boughs turn aside, and aside again, to accommodate themselves to each other in a polite way, as if they were saying, "After you, sir," and so, by many gentle curves and delicate turns, and a running straight forward when they can get a chance, their whole idea and intention being to get as much light, and air, and moisture as possible. And thus Nature, from the very necessity of the thing, from its very fitness or adaptability to its purpose, founds her art of beautiful drawing.

Mr. Ruskin tells us that "Graceful curvature is distinguished from ungraceful by two characters; first, its moderation—that is to say, its close approach to straightness in some parts of its course—and secondly, by its never remaining equal in degree at different parts of its course." He further tells us —"that this variation is twofold in all good curves; there is first a steady change throughout the whole line from less to more curvature or more to less, so that no part of the line is a segment of a circle, or can be drawn by compasses in any way whatever." Thus one example is a bad curve, because part of a circle, and is therefore monotonous throughout; another is a good curve, because it continually changes its direction as it proceeds. Now, in this Greek vase, we have an instance of how ingeniously man can adapt and mould the great truths of Nature to the purposes of art, and here we have an epitome of good drawing. If we carefully study all the most beautiful forms of Nature—or let us for the moment call them the most pleasing—we shall find that their outlines, though varied and distinct, have certain qualities which are

universal; there is an emphasis more or less great in all beautiful curves, sometimes it is again but faintly echoed, but these characteristics are invariable throughout Nature in all her important works.

But Nature is not content with drawing one beautiful line, she must draw another, also beautiful in itself, which shall, by its contrast, show off the beauty of the other one, and herein lies the great prevailing law of the Beautiful in art, that each part of a work is designed so as to advantage the rest, and it would be well if this could be carried out in life; at all events, this is the great doctrine of true art. The straight line and the circle enter largely into the composition of beautiful designs, although it is said that they are not beautiful in themselves, on account of their monotony. But the straight line steadies every composition of other lines, and gives value to beautiful curves, for it shows off their grace by contrast, and the circle is an exact foil to straightness, and when judiciously introduced, as in architecture, gives in its turn great value to the straight lines and square forms of a building. The fret patterns, which are favourite Greek ornaments, show us the beauty of straight lines. Straight lines vary only in length, and this key pattern gives us that variety in a beautifully-proportioned figure. It pleases us on account of its unity and its variety (two of the great laws of the Beautiful), and because it brings out the one quality of infinity which straight lines possess, namely, variation in length; and note that the frets are not square, but oblong, and therefore capable of a greater degree of variety; and this again is broken at intervals by a square and a different pattern, sometimes containing a circle showing the value of contrast, which is another of the great laws of composition; and note that, being on a round surface, each fret appears to decrease in length as we follow it round the vase, which again increases its beauty by gradation. If we study the celebrated Campanile at Florence, by Giotto, we shall see how exquisitely beautiful a design composed of straight lines may be made by an artist of taste.

ELECTRIC LIGHTING.

A new electric lamp has been brought out in Paris. It is a combination of the Werdermann with a perforated carbon filled by an insulating medium. It is said to work well.—Arrangements have just been completed with the British Electric Light Company for the experimental lighting of certain important parts of the General Post Office, St. Martin's-le-Grand. The first series of the experiments will be conducted in the telegraph instrument galleries. "The Search for the Carbons" may possibly be the title of some future story of adventure. Reference has already been made in our columns to Mr. Edison's difficulties in endeavouring to discover a sufficiently homogenous fibre for the incandescent carbon loops of his electric lamp, and to the statements that the American inventor has despatched agents to Brazil, Japan, and elsewhere, to search for plants capable of yielding the required material. The *Japan Mail* states that the agent for that part of the globe had already made large collections in Japan, and was about to leave for China and more southern regions on the same business.—— The experiment of lighting the streets of Bristol has been pronounced a success. Six temporary lights were erected—one opposite the Grand Hotel, one over the pump in Wine-street, one at the top of Corn-street, one opposite the Commercial Rooms, one in High-street, and one over the four lamps by Bristol Bridge. The engine with which the wires are connected is at the bottom of Broad-street. It is a gas engine of 12 horse-power, but only half its force will be required to feed the six-light machine tried. The apparatus is what is known as the "5 B" Brush dynamo machine.——An arrangement has been made with the Brush Electric Light Company and the Sewers Commissioners to lay down the requisite wires in Vine-street, York-road, and along Stamford-street, near Waterloo-station, London, for lighting those streets.

A negro boy was driving a mule in Jamaica, when the animal suddenly stopped and refused to budge. "Won't go, eh?" said the boy. "Feel grand, do you? I s'pose you forget your fadder was a jackass."

EXTENSION OF THE FACTORY ACT.

The Secretary of State has extended the special prohibition contained in the factory act, to the effect that a child, young person, or woman shall not be allowed to take a meal, or to remain during the times allowed for meals, in the parts of the factories or workshops to which the section applies to the following among other places:—"Every part of a factory or workshop in which wool or hair is sorted or dusted, or in which rags are sorted, dusted, or ground. Every part of a textile factory in which part gassing is carried on. Every part of a printwork, bleachwork, or dyework in which part singeing is carried on. Every part of a factory or workshop in which part any of the following processes are carried on:—Grinding, glazing, or polishing on a wheel; brass-casting; dipping metals in aquafortis, or other acid solution, metal-bronzing, majolica painting on earthenware, catgut cleansing and preparing; cutting, turning, polishing bones, ivory, pearl-shell, snail-shell."

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EXHIBITION

OF

Domestic Labour-Saving Appliances

AND ALL ARTICLES INTENDED FOR THE PROMOTION OF

DOMESTIC THRIFT

TO BE HELD AT THE

AGRICULTURAL HALL, LONDON,

March 7, 8, 9, 10, 11, 12, 14, 15, 16, and 17, 1881.

This Exhibition will comprise all Appliances for Economising Domestic Labour, for the promotion of Domestic Thrift, and enhancing the hygienic comfort and pleasure of the Household, including all the latest inventions and novelties for Lighting, Warming, Ventilating, Cooking, Cleaning, Washing, Sewing, Gardening, and Recreation; as for example:—

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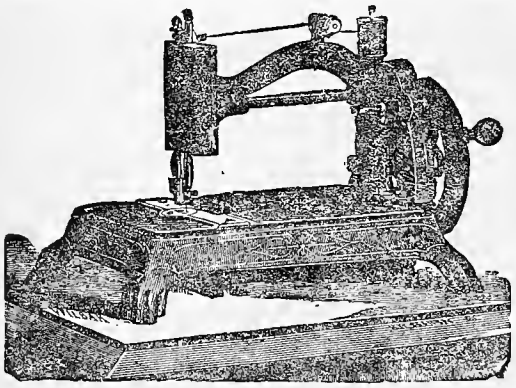

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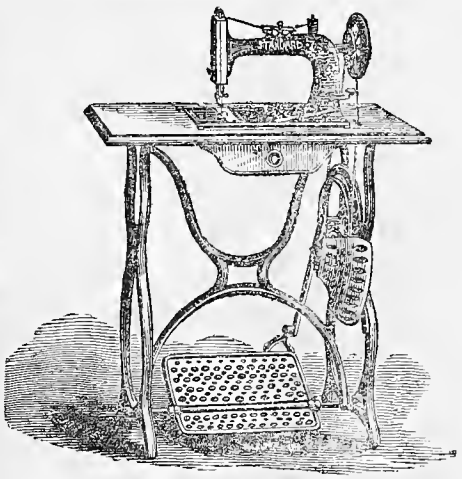

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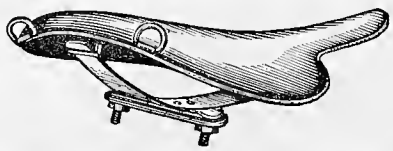

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The Sewing Machine Gazette

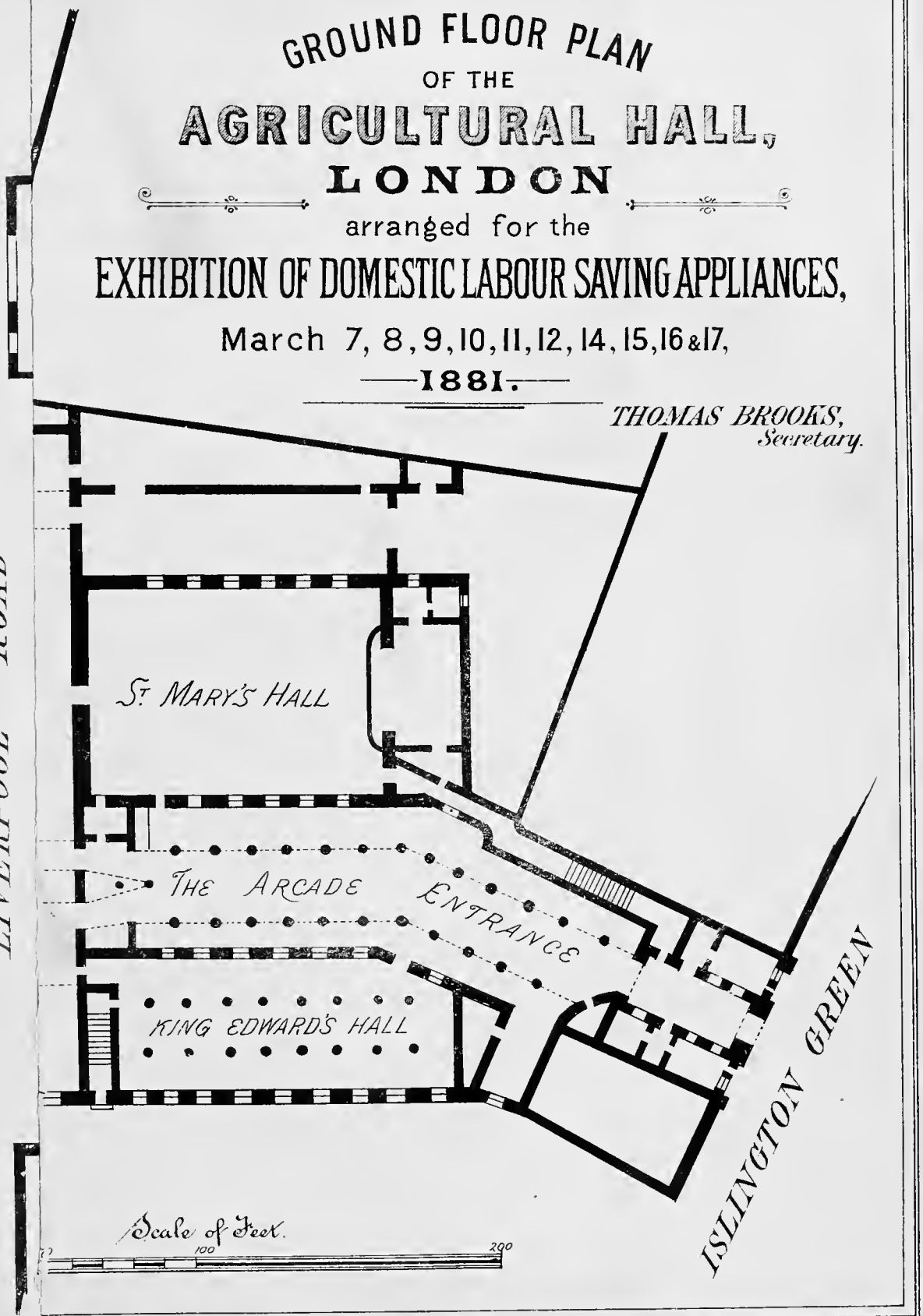
AND

JOURNAL OF DOMESTIC APPLIANCES.

AN exhibition will be held at the Agricultural Hall during ten days in the month of March, which ought to be full of interest to the readers of this journal. It is to be an Exhibition of Domestic Labour-saving Appliances and of all articles intended for the promotion of Household Thrift, and will include among other things Sewing, Knitting, and Kilting Machinery, Washing, Wringing, Boot and Knife-cleaning Machinery, Musical Instruments, Bicycles, &c., &c.

GROUND FLOOR PLAN
OF THE
AGRICULTURAL HALL,
LONDON
arranged for the
EXHIBITION OF DOMESTIC LABOUR SAVING APPLIANCES,
March 7, 8, 9, 10, 11, 12, 14, 15, 16 & 17,
1881.

THOMAS BROOKS,
Secretary.



JONES & CUTHBERT
16, LITTLE TRINITY LANE, E.C.

Exhibitions similar in character to that now proposed have been held in the provinces, especially in Birmingham and Manchester. Of course they have been upon a comparatively limited scale—but from the reports that reach us from all quarters this forthcoming exhibition will be by far the most extensive thing of the kind that has ever been seen—and all the leading firms in the trade will be represented. It will be very interesting to note the great advances that have been made of late years in the production of labour-saving appliances; of course the invention and introduction of the sewing machine was in itself an important step in the right direction, but advances equally great have also been made in other departments of household economy, as for example, in the laundry, the dairy, and the kitchen. America has sent us over a goodly assortment of what are known as "Yankee notions"—such as apple parers, egg beaters, lemon squeezers, &c., &c.—all of which have found a ready sale, all tending to the economy of manual labour, although there are many people who do not hesitate to say that even our present improvements do not go far enough, and that they would like to see a combined bed-making, pudding-mixing, floor-scrubbing machine in a blue gown and a mob cap that should take the place of the domestic servant all day, and be put away in a corner cupboard at night, but whether such an article is at all likely to be exhibited this year remains to be seen. The most important aspect of the exhibition to our readers is that it will help to educate the public in the use of domestic labour-saving machinery. We have no doubt that many ladies and gentlemen will see there for the first time articles that they did not even know to be in existence, and which they will purchase for use in their own households, thus giving a considerable impetus to the trade. The successful manufacture of washing, wringing, and dairy machinery has been confined chiefly to the English maker. The sightly, useful, and little nick-nacks that come from America are all very well in their way, but for strong, useful laundry and kitchen machinery our home manufacturers are unrivalled. Thrift seems to be the great social question of the day. How to make a little money go a long way, and how to get through the work of the household efficiently in the shortest time, are questions which are seriously engaging the public mind. Such an exhibition as that we have referred to therefore comes very opportunely at the present moment, and it has our best wishes for its success.

The New Year appears to have opened very favourably for business generally, and the sewing machine trade in particular seems to be in a more flourishing condition than it has enjoyed for some time past. Of course the days of high prices and cash-down on the counter before the machine left the shop are gone, never likely to come back again, but there is still a large legitimate business to be done by those who have a good article to sell, and who will attend to their own business and not attempt to trade upon the reputation of other people. We have many times urged the expediency of sewing machine dealers adding other articles of domestic utility to their business, but what these articles should be must depend very largely upon the locality; in one place bicycles will do well, in others wringing and washing machines would be more advisable, but there are very few cases in which a sufficiently large trade can be done in sewing machines alone to enable the retailer to pick up a comfortable living. Our readers will do well to visit the exhibition referred to above, where it is probable they will find a large variety of articles suitable for introduction to their individual trades.

TESTIMONIAL TO MR. GOMPERTZ.

A very pleasant meeting was held at Anderton's Hotel, Fleet-street, on the 30th December last, when a number of gentlemen were present to express their esteem for and sympathy with Mr. Walter Gompertz, of the Wheeler and Wilson Manufacturing Company, who it may be remembered was made the subject of an action for perjury, arising out of a case heard last autumn at the Worship-street police-court under which he was acquitted. The chair was taken by Thos. Perry, Esq., manager of the Royal Small Arms Factory, with which Mr. Gompertz was connected for ten years previous to his entering the service of the Wheeler and Wilson Manufacturing Company, fifteen years ago. Richard Hunting, Esq., general manager of the Wheeler and Wilson Manufacturing Company, made a very characteristic and sympathetic speech, testifying in the highest terms to the estimation in which Mr. Gompertz is held by the company. The chairman presented him, on behalf of the meeting, with a handsome purse, the work of the daughter of one of the visitors present, containing £50 in gold. It was also announced that an illuminated address is in course of preparation and will be presented to him in due course. We are very glad Mr. Gompertz's friends and employers have testified in this pleasant way to Mr. Gompertz's worth. All those who know him were perfectly aware there was not the remotest foundation for the charge made against him, and that he was utterly incapable of anything of the sort. It was none the less a severe trial to him, and we hope the pleasant little gathering will have led him to feel that whatever spiteful people may say, those who know him best like him just as well as ever.

Messrs. T. Wolstencroft and Co., the well-known washing machine manufacturers, have removed from Blackfriars-road to more commodious premises situate at 93, High Holborn, London, W.C.

The firm which has traded as Thomas Rhodes, of 28, Crown-street, Halifax, has been dissolved. The business of sewing machine merchants will still be carried on as usual by Abraham and James Rhodes (who will pay all debts owing by the late firm) under the style of Thomas Rhodes as heretofore.

Bicycle manufacturers are again getting busy. Coventry and Wolverhampton are in receipt of some good orders, and other towns where bicycles are made will speedily follow suit. The business of one of the well-known firms for which Wolverhampton has long been noted, has just been removed to Coventry. The business of the late D. Rudge has been purchased by the Tangent Co., and will in future be carried on at Coventry by that firm.

Failures in the United States.—"Dunn's Report of Mercantile Failures" in the United States shows that there were 4,735 failures with 65,752,000 dols. liabilities in 1880, against 6,658 failures and 98,140,000 dols. liabilities in 1879. The report gives warning that the rapidity of expansion now noticeable is almost certain to result in disastrous speculations, and it advocates the passage of a bankruptcy law by Congress.

City and Guilds of London Institute.—The spring term of the City Technical Science Classes commenced last Monday, at the Cowper-street Schools, in rooms rented from the Middle Class School Corporation, pending the erection of the City and Guilds Technical College, Finsbury.

A Technical School for Preston.—The trustees of the late Mr. E. K. Davis, Preston, who bequeathed over £300,000 for establishment of public institutions in Preston, have determined to establish a science and art school with technical classes, which, it is estimated, will cost about £50,000. It is also understood that the trustees will found a free public library and museum.

MR. PLATT'S PUBLICATIONS.

LIFE—By JAMES PLATT. Author of 'Business,' 'Money,' and 'Morality.'

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LIFE—Religion, Future Life, Human Destiny.

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LIFE—Page 24 :—"Make Life a grander thing. Prove to men what a glorious thing it is to exist, how enjoyable life might be, how sweet life is, even as it is—aye, we never know how sweet until we fear we are about to lose it. What a mockery 'Faith in God' is when we reflect upon the melancholy views the majority of orthodox people have of it, going through the journey as an ordeal to be borne as patiently and submissively as possible, altogether misconceiving the noble sentiment, 'Not my will, but thine be done.'"

LIFE—Page 34 :—"Life is real, life should be earnest. To be enjoyed, we must have an aim, an object in life; and to be happy, to enjoy life, the object must be one worthy the highest, purest, best part of our nature—men's character so strong and true that they can be relied up; men that wear their lives out, not rust them out; men who live to act, to produce what they consume."

LIFE—Page 45 :—"The more we think of life, the greater must be our reverence for the 'Great Unknown.' Life will be very different once we get the people to realise as an indisputable truth that there is never anything wrong but what has been done by ourselves or others; and that the wrong remains so long only as we refuse to put it right.'"

LIFE—Page 102 :—"Common sense denies that any happy chance will do for a man what he is quite unable to do for himself. Our happiness consists in the use of our faculties, and a faith that our wages will be in proportion to our deserts. Success and failure are not dealt out like prizes and blanks in a lottery, by chance and indiscriminately; but there is a reason for every success and failure. Indolence, chicanery, waste will cause the one; while industry, honesty and thrift will ensure the other.'"

LIFE—Page 173 :—"The more you think of life, the more you know of the Creator's way of governing the universe, the more you know of your own constitution and the happiness within your reach, the less will you believe that God meant man to be born weeping, to live complaining, and to die disappointed.'"

LIFE—PAGE 192 :—"We have life. What shall we do with it? The world is like a vast manufactory, in which we hear incessantly the clash and whirring of a complex machinery. Shall we try and get the bottom of this? Yes, undoubtedly, earnestly, and fearlessly. Believe me you will thus get to learn that the law maker is behind his laws, and that, paradoxical as it may seem, while He hides himself behind them, He also reveals himself through them. There is no better way of understanding the Creator; the laws are emanations of the all-beauteous mind; they shadow forth the divinity that contrived them; we find the more we study them, greater evidence that there is a Living God, a Father caring for and loving His children."

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BUSINESS.—Page 179—"From every pulpit and in every school throughout the kingdom the justification of double dealing and trickery upon the plea that it is impossible to get a living honestly by trade, or in any vocation, should be denounced in the most unmistakeable language as a libel on Providence, and the failure to succeed be attributed to its real cause—the man's ignorance of or incapacity for the business or profession he follows."

COUNTY COURT DEBTORS.

Men of business who are compelled to sue their debtors in the County Court have to suffer many inconveniences. The proceedings are still both cumbrous and costly, and there is thus much delay and expense about what should be a very simple and straightforward affair. Since the Act of 1875 things have been better, for under that statute judgment can be obtained in default of notice of defence without going through the needless form of proof, which is still necessary in other cases, even where the debtor does not appear. But this judgment is of little value to a creditor if the judge insists upon making an order for payment of the debt by small instalments, which will keep the matter hanging about for months, or even years. We believe that judges have no power to make these orders, and would suggest to all plaintiffs who use the default summons to claim their legal right to issue execution forthwith upon the judgment. This is the only way in which the money can be obtained, for if a defendant has time to make arrangements he will generally patch up a bill of sale to stop the bailiff, or file his petition in liquidation. As to these bailiffs also, there is much room for improvement. If, in an action in the High Court, the sheriff be instructed to levy, he is bound to do so at once, and is personally liable for any loss that may result from his delay or negligence. In the County Court this is not so, and the bailiffs practically do as they choose ; making a return where they like, and, in general, being responsible to nobody; although by their conduct the creditor has failed to get his money. This is a point that greatly needs looking to, and we hope to see it considered in the County Court Bill, of which notice has already been given in the House of Commons, as a judgment is of little or no value if it cannot both surely and speedily be carried into execution.

Where debtors have no goods then the only other means open to the creditor of trying to get his money is the taking out of a summons for a committal. Now, we do not support the principle of imprisonment for debt, and cannot help thinking that it is in itself an evil, though very often, perhaps, a necessary evil. It seems strange that the Scotch should have decided to do without it altogether, if it were really found to be beneficial; but when we have had some experience of the way in which they manage, now that it is abolished, we shall be better able to judge. It is true that no debtor can be sent to gaol, either in the High Court, where the same law applies, or in the County Court, unless the judge is first satisfied that he has, or has had since the judgment, the means of paying the debt as ordered. This is often inaccurately spoken of as a contempt of court, but it is not so. It may rather be ranked as a punishment for the quasi-criminal offence of not paying debts justly due when able. It proceeds upon the notion that the debtor, although he had means, has wilfully or negligently refused to discharge claims which a court of law has declared to be legal and binding. But, as every one knows, this principle is not very closely adhered to in the County Court, whatever may be the case in the High Court of Justice. Now, are debtors fairly placed upon the same level? for, in the latter tribunal, they can get free of everything by going into bankruptcy, while in the former they have no such chance of escape, and must live on with all their old debts hanging round their necks for ever.

It is but rarely that a man of business gives credit upon the strength of imprisonment for debt. It may be done by certain classes of the smaller traders, but it may also be doubted whether such credit is not hurtful both to giver and receiver. Few people would regret the abolishment of imprisonment for debt, and still fewer would object to any rules which place its administration on a sounder and firmer basis. Some rules of this kind have just been issued, and their general tendency is to compel County Court Judges to be more careful of using the power which is legally placed in their hands. One of these regulations will oblige plaintiffs to apply for a judgment summons soon after the defendant makes default, as if they wait for over four months it will be necessary for them to show their debtor's means upon affidavit, before the summons will even be issued. This has doubtless been done to stop creditors from letting the instalments ordered mount up before they get their debtors sent to prison. It is clear that, in this way, the Judge's order as to instalments is to some extent evaded, and he is called upon to commit for payment of a larger sum than he had thought the debtor was really able to pay at one time. There is another rule that should prove a great convenience to both parties. It provides that where either the creditor or the debtor resides out of the district in which the summons will be heard they may send in an affidavit to the Registrar of the Court setting forth any facts which they desire should be placed before the Judge at the hearing. At present letters are often written, especially by debtors, for this purpose; but the new plan is much better, for the affidavit would, of course, be the same thing as sworn verbal evidence, while it will save parties a long and tiresome journey to the court.

Other rules relate to the formalities which are to be observed in the making an order of committal, and though too technical for our consideration, they will serve to render the judges more cautious in having proof of means before they send the debtors summoned before them to various terms of imprisonment. It has always seemed to us an important question whether some power of arresting a man's salary or wages, at the suit of the creditor, would not better serve the purpose than any system of imprisonment. It should, of course, be surrounded with every safeguard necessary, and should not be allowed to go below a certain sum, so that enough would be left for the reasonable sustenance of the debtor and his family. At present it is a common thing to hear evidence given of a man's salary or wages, and then to see him sent to gaol because he has not paid his creditor out of what he so received. There is a curious want of logic about such a proceeding, and it certainly does seem an odd way of getting money out of a man to begin by preventing him from earning any more. Would it not be better to allow the County Court Judge to order his employer to pay so much a week or a month to the plaintiff suing? Of course, this could, and would, often be evaded by the debtor leaving his former service, but still, in many cases, it would be found very efficacious; at all events, it would get rid of the present absurd result, that while the law is punishing a debtor for not paying, he is kept in prison at the public expense, and his wife and family come as paupers upon the parish, and have to be maintained at the cost of the ratepayers generally.

For many reasons it is probable that were there no such thing as imprisonment for debt, a healthier tone in business amongst those who now give credit, relying, though remotely, upon its operation, would result. It can, indeed, hardly be called successful, for the figures prove that about 90 per cent. of the debtors sent to gaol stay there the full term for which they were committed. This shows that one of two things must have happened; either the man could pay but would not, in which case the committal was a failure; or that he could not pay, and his incarceration was therefore an injustice. But, on the other hand, it must be admitted that the fear of imprisonment does often bring debtors to book, and that, according to statistics, it is only a very small proportion of the total number of judgment summonses issued that end in an order of commitment. We are, of course, only concerned in considering the best way for creditors quickly and cheaply to get in their debts. They must use the County Court, and if imprisonment be really needful it should be maintained, but something better might, we believe, be contrived, and especially where there is a salary or wages that could be partially attached.

MR. MUNDELLA ON TECHNICAL EDUCATION.

During the past month the prizes and certificates gained by the students at the annual examinations of the City of London College, the Society of Arts, and the Government Department of Science and Art, were distributed at the College in Leadenhall-street by Mr. Mundella, M.P., the Lord Mayor being also present. Having distributed the prizes, Mr. Mundella said he knew something of the City of London, having had some association with it for more than forty years, and he knew the kind of feeling of expectation and hope with which young men came from the country to establish some commercial relations with this great city. There was no city in the world that was so cosmopolitan. They found in it young men of all nations, and the business of all nations was transacted in it. When he was in the United States he remembered an American citizen

claiming pre-eminence for the city of New York in that respect, but his answer was that everyone seemed engaged in transacting strictly American business, while in the City of London they transacted the business of the world. The result was that thousands of young men annually came to London, who were beset by trials and temptations on every side, and the young men who had passed before them that evening had done one thing, if nothing else—they had been engaged in useful and intellectual employment, which had kept them away from temptation. Every man should arm himself to fight the battle of life with the best weapons at his command. He was sorry to say that in England we had not armed our young men with the best weapons, and it was a noble conception on the part of the founders of this College to have established a University, as it were, for young men, who, while pursuing their daily avocations, might take up languages, literature, physical science, and go on till they did what some of their predecessors had done; for the institution was now represented in the Church, at the Bar, in the medical profession, in the higher walks of commerce, and even in Parliament. He would remind the students that they were not merely by these studies making themselves, so to speak, better fitted for earning higher salaries or for more important missions of trust in the commercial world, but were also doing for their minds what gymnastics did for their bodies. In a charming essay Sir John Lubbock told how Gibbon said that the mere acquisition of a taste for reading was of more value to him than all the treasures of the Indies, and that the love of reading had made Macaulay's life the happiest of lives. He found from the report that the institution had outgrown the space at its command, and that the council felt that with more space they could engage upon the work on which they had already entered and with considerable success—technical education. Addressing the Lord Mayor, the right hon. gentleman observed that it was a matter of great rejoicing to him, having advocated the increase and improvement of technical education in England for the last sixteen years, that the Corporation of the City of London had during the past few months made a step in the right direction. They had voted £10,000 towards the new technical guilds to be established at South Kensington, and £2,000 a year for some years, and he saw that the great City guilds, whose names were identified with our British industries, and which had presided over their infancy, but had long ceased to have any connection with them but their name, had recently taken it in hand to improve the skill, industry, and force of the British workman. He, however, thought it was only right to say that the sum which had been raised, £50,000 for building and £5,000 for sustenance, was altogether inadequate, and if the City of London and the guilds of London were to do anything worthy of their name and position, they must do far more. The sum mentioned was not sufficient for the sustenance of the laboratory. A single institution in a German town had spent £60,000 on the laboratory added to it last year. He knew second and third rate towns spread over the Continent of Europe which had spent in the last four or five years double the sum which was supposed to be sufficient to represent the great city of London. The Corporation could do no better work than to affiliate this institution to their new College. In England we had local and natural advantages surpassing those of any other country in the world—coal and iron lying side by side, our splendid geographical position, a larger and cheaper capital than that of any other nation, workmen by tens and hundreds of thousands who had been accustomed to manipulate every kind of material, and we also had our ancient prestige as the best manufacturers in the world; but we had neglected two things—art training and science teaching in connection with our industries. He believed it was impossible to exaggerate the value of the service which the late Prince Consort rendered to British manufactures and commerce by his appreciation of the defects which were made apparent to us by the Exhibition of 1851. Comparing our past manufactures with the beautiful products of art we now made, our progress since 1851 seemed perfectly incredible, and he believed that our trade to-day must be many millions a year benefited by the application of art to our various industries. We might also depend upon it that we had paid a very heavy toll for our ignorance of foreign languages. He desired to tell their civic visitors that now was the time for them to be useful, that we had too long omitted applying science to industry, and that our opponents and competitors had found out our weak places. He sincerely trusted that what he had said might be some stimulus to those who had it in their power to help on this great work, and that they would begin by helping this excellent institution.

LABOUR MARKET.

All outdoor trades have been suspended, owing to the weather, and the operatives have suffered severely during the last fortnight. Each artisan, however, out of work from no cause of his own is assisted from the trade funds to the extent of half the amount of his wages. The cloth market remains quiet, and, if anything, prices are declining. At Oldham the cotton manufacturers have conceded 5 per cent. to the spinners, minders, and card-room hands, but they have refused an advance to the twiners, as they assert that there is a loss in this branch of the business. The twiners have in consequence resolved to cease work until their claim is granted. The strike of engineers on the Wear has terminated by 1s. additional being given to all who receive 32s. per week, and those under are to be raised 2s. per week. The shipyards are all full of good orders, and there are scarcely any shipbuilders or boilermakers out of work. The North of England iron trade report issued last week shows the average price of plates for the quarter ending Dec. 31 to be £6 4s. 4d., as compared with £6 8s. 1d. for the September quarter; this under the sliding scale reduces the wages of puddlers 3d. per ton, and 2½ per cent. to all other mill hands till the end of April. This is a severe disappointment to the ironworkers of the North, as they were expecting an increase. The slate trade in North Wales is rather disturbed, owing to the large employers insisting that the quarrymen shall contract themselves out of the Employers' Liability Act. This the men refuse, and matters are serious in this branch of industry. Contrary to expectation, the dispute with the Lancashire coal miners has not been settled. It is assuming grave aspects, and alarming riots have taken place at Wigan and other districts. Now that the coalowners have withdrawn their resistance to the Employers' Liability Act, the wages question is the cause in dispute, and the miners are determined to have an advance of 10 per cent. The strike and the severe weather have had the effect of making a great demand on the coal trade in other districts, causing prices to run up enormously. In South Yorkshire the owners have, on these grounds, offered an advance of 2½ per cent., but the miners, by the advice of their council, demand 10 per cent. It is much to be regretted that the sliding scale cannot be adopted, as it would prevent the constant disputes now occurring. With a good board of arbitration in each district consisting of an equal number of masters and men, presided over by an able umpire, amicable relations would soon be restored, and the result would be beneficial alike to employers and employed. A Parliamentary paper just issued gives the number of trade unions registered under the Friendly Societies Act at twenty-six, the number of members being 207,503, and the yearly income £247,490. Only about half the trade unions are registered under the Act, as many of them are established for trade purposes only.

Our Bristol correspondent writes:—Trade in Bristol and the West of England has not yet recovered from the extraordinary disarrangement of nearly all its branches by the recent severe weather, and but for the fact that many hundreds of men have been employed both in town and country in clearing the highways of the immense accumulations of snow, the distress amongst the working classes would be more widespread than it is at present. Although business itself is as dull as it was this time last year, there is a more hopeful tone throughout all the staple industries, with the exception of the building trade. In many cases, where the home consumption is almost nil, improved exports are keeping the workmen very fairly employed, and this is especially the case in the cabinet manufactories, one of the largest firms in Bristol having this week received heavy orders for the Cape, while the demand

from South Wales is steadily improving. In the leather trade it has been the quietest January known for years. Both tanners and boot and shoe manufacturers are, however, anticipating a more active time, now the weather has broken. Ironmongers are doing little, and in the timber trade there is a large accumulation of stock. In South Wales, while the demand for coal has by no means decreased, the scarcity, owing to the irregular output, continues, and from many of the large colleries it is still very difficult to get coal down to the ports of shipment. In the Forest of Dean also there has been another week of irregular working, but it is hoped that the coming week will once more see the pits in full activity.

In Leicestershire the resumption of outdoor labour has greatly relieved the labour market. The staple industries, however, are exceedingly depressed, and the outlook is anything but hopeful. Clickers, pressmen, rivetters and finishers in the shoe trade are very short of work, nearly all the factories being closed half the week. Producing is also being curtailed to a serious extent at all the large spinning factories.

The Midland hardware trades have again suffered severely from frost and snow, many manufacturers standing still for want of fuel, and in other cases the water supply has been very inadequate and irregular. The retail trade has been paralysed everywhere by the severe weather, and travellers have reaped little advantage from their journeys at present. In the export department there is a little more life, on account of the Australian Colonies, India, and South America. The orders coming to hand are not large, but they are of a healthy character, indicating increased consumption and diminishing stocks. There is a marked improvement in the advices from the River Plate, and the capture of Lima by the Chilians has greatly benefited trade prospects on the Pacific seaboard. Nails, both cut and wrought, continue in very languid request, and prices all round are easy. Birmingham cut-nailmakers complain greatly of the keenness of the competition at Leeds and Glasgow, where prices are unremunerative, but the fault lies in over-production. The hand-wrought nail trade is in a yet more depressed state, and the earnings of the operatives in this branch, it is stated, do not average more than 4s. or 5s. weekly. Iron-founders are generally well engaged on heavy constructive works, piers, bridges, girders, &c. The malleable iron-foundry trade, which was very quiet during the greater part of last year, has lately taken a turn for the better, and the prospects in this branch are considered favourable, more especially for the makers of machine castings.

HOW TO DISCOURAGE AGENTS.

The average sewing machine agent, as well as the canvasser, has many deficiences to contend with at the hands of those who employ him. In most cases these deficiencies could be remedied if the manufacturers were not so short sighted in allowing work to go out of their factories which is far from perfect, and which redounds to their discredit. They are "penny wise and pound foolish ideas," which some adhere to in their endeavour to economise in production.

The latest instance of this delusive idea is the fact that some of the sewing machine cabinet work which is being manufactured and sent out is notoriously bad, not lasting long enough to be shipped from the factory to the agent. Within a short time we have seen new sewing machines, wood work—*i.e.*, table top—cracked six or eight inches; and that, too, when received by the agent. We have also seen tables that have been plugged and nicely polished over, so as not to be noticed by the unpractised eye; besides others that have had the seams filled and polished so that no one but an expert could detect the fraud. After such machines are sold new cracks will appear, as a matter of course, doing no good to a company who will send out such work, and demoralising the agent and canvasser. We cannot understand why any company of standard reputation will allow such miserable tables to be sent out—but such is the case. It would be much better if more attention was paid to this line of the sewing machine trade than in denouncing agents for loss of trade.

Those agents who have received and are receiving this class of work, complain bitterly of the injustice done them and their customers; and also from the fact that the company expect them to keep well to the front in point of sales. As an agent said: "It discourages the canvasser as well as myself." When a machine is left on trial, or otherwise, a crack or seam loses the sale of that machine, or of another. It causes the proposed purchaser to look with distrust upon the entire machine—and justly, too. If one part is notoriously poor, what guarantee has the purchaser that the entire machine is not in keeping? None at all. We know, for a fact, that sales have been lost for no other reason than a cracked table; and that, too, when it was new—or supposed to be.

People will not believe that the mechanical parts are any better made than the table-top, when they discover an imperfection there. Raise the standard of the wood work to that of the machine, and it will be money in the company's pocket, as well as in that of the agent. Sewing-machine agents cannot perform impossibilities; and it is impossible to do a thriving business with cracked or plugged sewing-machine table-tops. It is a penurious policy, and should be discontinued at once. As it is, the agent is to blame in the eyes of the company, when really the fault is in the manufacture of such miserable class of wood work on the ground of economy. We hope to see a change for the better in this line of the trade; otherwise the time will come when those who send out such imperfections will stand in the back-ground, and all on account of a parsimonious policy in expenditures.

THE SIGWALT FACTORY.

The factory of the Sigwalt Company is situated at Arlington Heights, a distance of twenty-two miles from Chicago, and has always been admired as one of the best fitted up in the Western States. It consists of a main building and a wing; the former being 37 by 100 feet, the latter 37 by 80. Both are very substantially built, of brick, and are two stories in height. The large floor room thus enclosed is filled with machinery of the most improved description, additions to which are constantly being made by the company, whose enterprise will not allow them to fall behind the times in having the latest and best mechanical devices. The sewing machines called the "Sigwalt" are turned out in large quantities and shipped all over the country. Not only are sewing machines manufactured; another and very extensive portion of the business is the manufacture of seal presses, letter-presses, dating stamps, rubber stamps, and engraver's supplies; and also the stands for all kinds of sewing machines. Adjoining the factory is a foundry, measuring 65 by 85 feet. All of the buildings are lighted by gas made on the premises by one of Berry Brothers' combination machines. For facilities of shipment a side-track from the Chicago and North Western R. R. runs within a few feet of the main building, so that cars can be loaded and unloaded at the very doors. Large and commodious offices are attached to the building, fitted with all necessary appliances for conducting the large and varied business of the Sigwalt Sewing Machine Company.

READING FOR MECHANICS.

There is no class in the community, says the *Sewing Machine News*, to whom a taste for reading may be more valuable than to our artisans. After a day of toil at the bench or lathe the companionship of a good book is both restful and inspiring. He who will resort to it has ever at his command the most elevating thoughts, a solace for his worries and fatigues, and the best preservative against mean and degrading associations. No man, who has once tasted the difference, could possibly prefer the slang of the billiard hall, or the hoozy discussions of the rum shop to the "thoughts that breathe and words that burn" in the pages of Shakspeare and Scott, Irving and Longfellow. But our suggestion is not limited to this classic field, though it yields a precious harvest in dignity of sentiment and purity of language. Well directed reading is likewise the passport to every form of knowledge, and thereby the most powerful means through which earnest and aspiring

men can promote their own fortunes. At present, too, we have periodicals devoted to every great industry, and science is made familiar in countless volumes, so that a right royal road is open to the mechanic who would advance in his own specialty by utilising the methods and experience of others.

Here is, indeed, a secret worth remembering—that the artisan can improve and simplify his processes, have his resources enlarged, and his inventive faculty sharpened, by the silent intercourse at his own fireside with the best and ablest members of his craft. Such a reader will undoubtedly be more valuable to his employers than the self-complacent workman who fancies he knows enough, and has nothing to learn from books. The latter may perform sufficiently well his accustomed tasks, but he will rarely step ahead into the regions of invention, and in the higher elements of craftsmanship he will be out-distanced by the shopmate whom he contemns as a "book-worm." It behooves every mechanic, therefore, to cultivate a taste for useful reading, and especially those in the sewing machine trade, which is still so full of splendid possibilities. The aptitude for downright study, or technical researches, may not come all at once, but, except with very shallow minds, the drift of the reading habit is from that which is mere pastime to that which instructs, and finally to that which is most practical and progressive.

And wherefore should not manufacturers encourage this taste? It is unquestionably their interest—and some would say, their duty—to promote the moral well-being and intelligence of their workmen. A provision of good books for them would measurably fufil this duty, but though we have heard of libraries for employés in other branches of trade, in some large commercial houses, and even on board ship for our stalwart sailors, we have yet to learn of the first in a sewing machine factory. We know it may be urged that manufacturing towns generally have good public libraries of which our workmen can avail themselves. But this is beside the issue where a free and convenient library would be better appreciated, and the choice of books might subserve a special want. Surely some of our wealthy companies can afford to lead the way in this admirable direction?

It is pleasant to note in this connection that Messrs. Brown and Sharpe, of Providence—than which no firm stands higher for the production of beautiful mechanism—have a flourishing library at their factory for the use of the employés. It now contains many hundred volumes both in general literature and technology, and so heartily have they been appreciated that the number is increased from time to time without any solicitation. The few simple rules under which it is managed, and which might serve in any other factory, may prompt into like beneficence some of the magnates of the sewing machine. They read as follows:—

Sec. 1. Any person in the employ of the company is entitled to the use of one volume for two weeks. At the expiration of this time it may be renewed for one week.

Sec. 2. If at the expiration of two weeks the volume is not returned, or renewed, or at the expiration of three weeks, it is not returned, a fine will be imposed of two cents for each day's detention.

Sec. 3. If any person shall lose or deface a volume he shall be charged a sum equal to the value of the same.

Sec. 4. No person taking books from the library can be permitted to loan them.

Sec. 5. Books in the possession of persons leaving the employ of the company, must be returned before settlement is made.

Sec. 6. The library will be under the charge of the timekeeper, who will deliver books at the regular periods as indicated on the library bulletin.

It may be added that this library is open for the issue of books every Friday afternoon at six o'clock—that is, when the day's work is over. About one-third of the workmen avail themselves of its advantages, the apprentices showing a preference for fiction, biography, and history. The artisans engaged on special jobs often seek books applying directly to the work in hand. *That's just where it pays.*

THE WHITE SEWING MACHINE COMPANY.

The following was clipped, here and there, from the *Cleveland Leader*, U.S.A.:—Four years ago last August, the White Sewing Machine was introduced to the people of this country. It has met with such favour that its sales now aggregate 100,000 machines per annum, the works having a capacity of 300 to 350 machines per day, and nearly 900 men are engaged in the various stages of its manufacture. The works on Canal-street have been enlarged by additions, from time to time, until the building now occupies a frontage of 432 by 291 feet deep and five stories high. Within this vast building everything is life and activity, almost bewildering to one unaccustomed to such scenes. One room, at least 100x60 feet in dimensions, is filled entirely with milling machines. Another spacious department is devoted simply to drilling the holes in the various portions of the "head" of the machine. Still another, which contains over 25,000dols. worth of automatic machinery—wonderful in its perfection and the perfection of its results—is devoted to the manufacture of screws alone. One large department is devoted to tool-making, where the most skilful mechanics are employed in producing or keeping in order the tools used in the hundreds of machines throughout the establishment. In one department men exist in an atmosphere of red hue, and charged with a strong odour of ammonia. It is the polishing-room, and long sprays of sparks leap from a hundred swiftly revolving emery wheels, as the metal is held firmly against them. The plating department is an interesting but not particularly pleasant locality, as the abundant supply of acid is not congenial to clothing; the odour disturbs the lungs, and the powerful Brush electric machine brings our watches to a standstill or galvanises the works in a manner interesting to the philosophical but annoying to the practical mind.

The active men of the company are the same as at the beginning, the officers being as follows: Thomas H. White, president; S. E. Henderson, secretary; H. W. White, treasurer; other stockholders, R. C. White, Henry W. White, D'Arcy Porter, superintendent; G. W. Baker, mechanical expert. All interested in the company are active participants in the business; and what is more important, and at the same time somewhat remarkable, they are all experienced sewing machine men—some having served the cause over twenty years. To that end they never allow an improvement of value to escape. They adopt whatever can make it better, and have a corps of skilful mechanics and originative geniuses constantly employed at the works, in an apartment by themselves, making improvements and devising new things.

The business of this company has extended to all parts of the earth, Australia, South America, and Mexico being constant customers. An office was recently opened at No. 21, Queen Victoria-street, London, for the accomodation of the European trade, although direct shipments will be continued.

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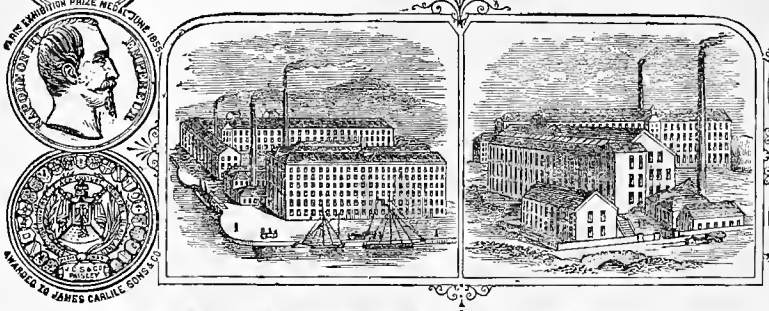

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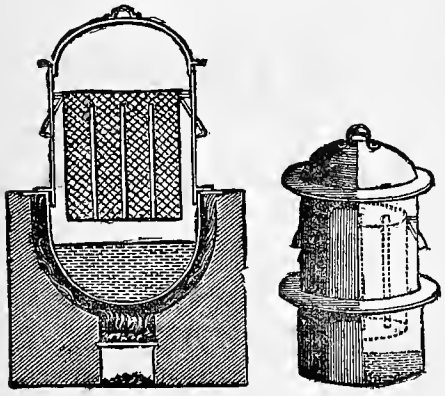

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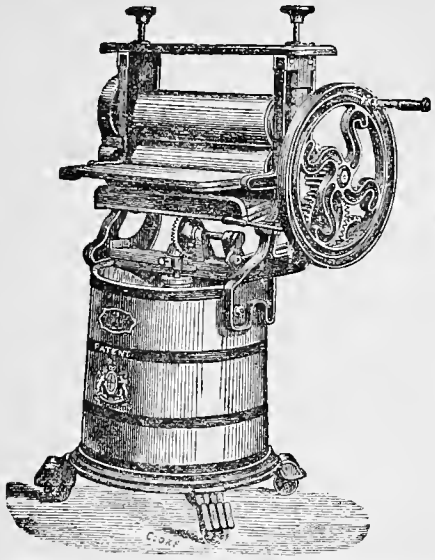

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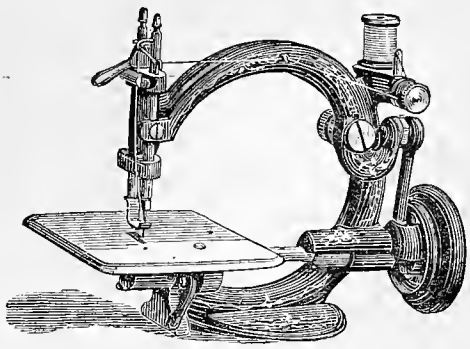

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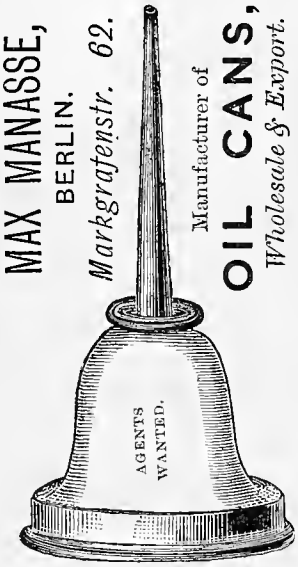

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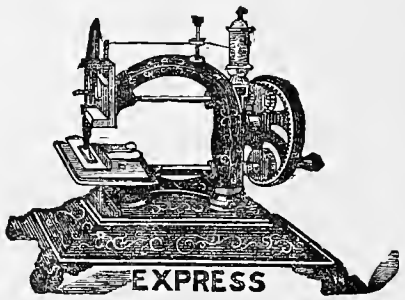

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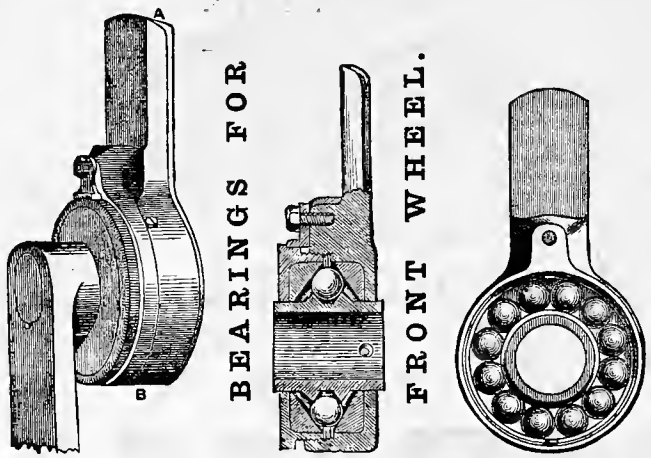

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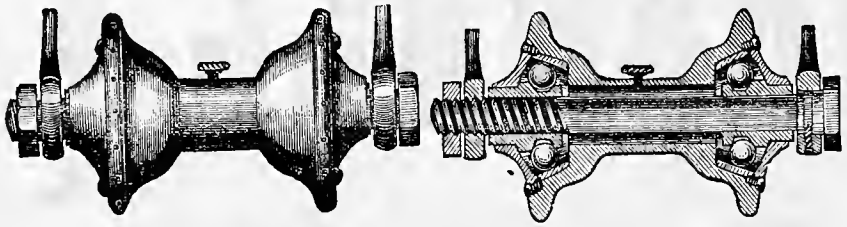
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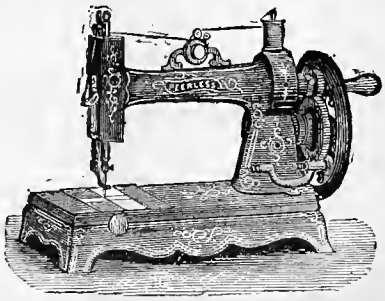

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Ripley, Market-place
Ripon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane, and 100, Regent-road
Scarborough, 30, Huntriss-row
Scotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 61, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
Yerk, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurse, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Domnick-street
Kilrush, Moore-street
Kingstown, 65½ Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford, Selskar-street.

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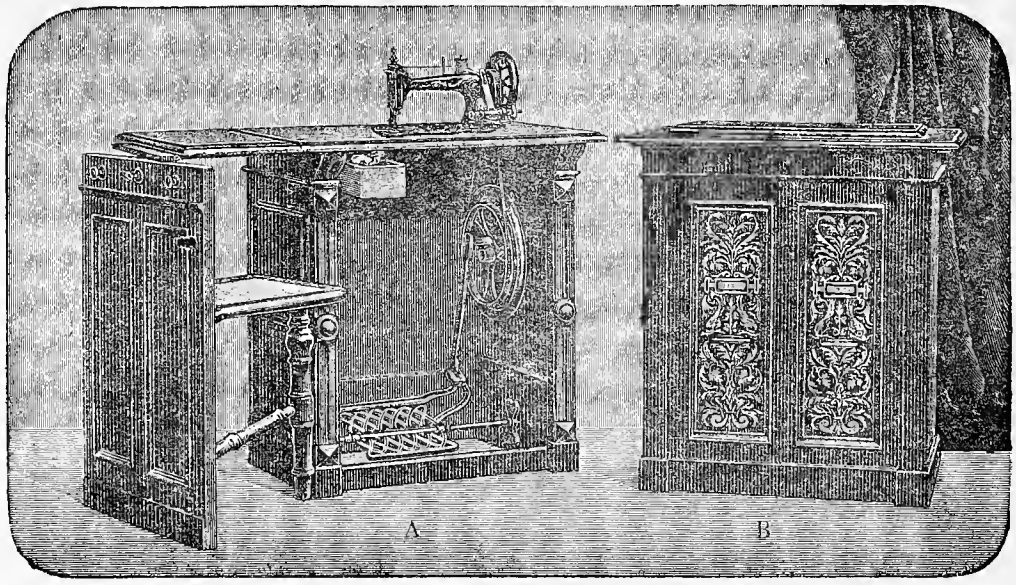
Oak waxed or walnut polished, plain or with elegant Intarsia Ornamentation.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within.

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother-of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE.

Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

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TAYLOR'S

PATENT SEWING MACHINES.

	NETT CASH, by the Half Doz. RETAIL.	WHOLESALE.
The Celebrated "TAYLOR FRICTION" Improved...	£4 14 6	£2 0 0
The "COMMERCIAL HOWE" Hand Machine... ...	4 4 0	1 15 0
The ditto ditto Treadle	5 5 0	2 10 0
The "COMMERCIAL" CHAIN STITCH formerly called "The Express"	2 2 0	0 17 0
"TAYLOR'S PATENT," No. 3 (Treadle)	6 10 0	3 0 0
The "COMMERCIAL FAMILY MACHINE S" ...	5 5 0	2 15 0
The ditto Hand ditto	4 4 0	2 0 0

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Edinburgh, 7, Frederick Street.
Glasgow, 71, Union Street.
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Exeter, London Inn Square.
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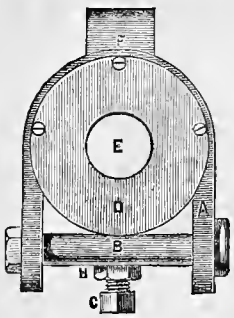

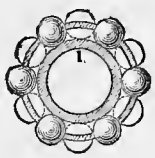

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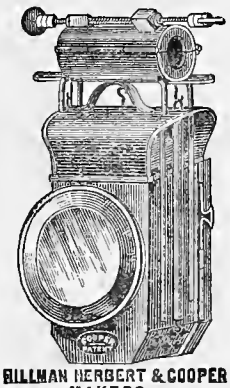

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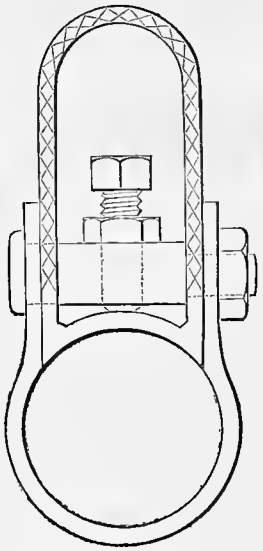

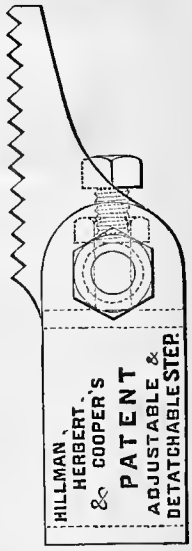

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UNIVERSALLY ADJUSTABLE, DUST PROOF, DURABLE,

AND REQUIRE BUT SLIGHT LUBRICATION.

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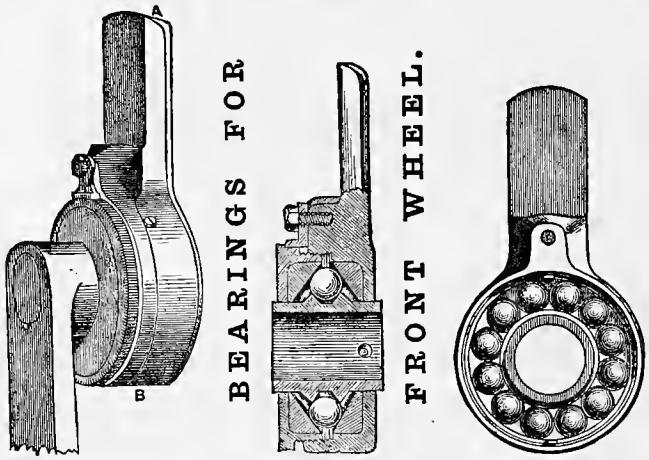
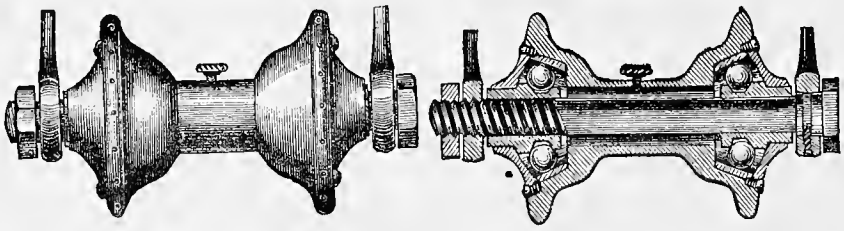


ELEVATION. SECTION. FRONT VIEW.

BACK WHEEL BEARINGS.

See Testimonals and Reviews.



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Won the 25 and 50 MILES AMATEUR CHAMPIONSHIP RACES on a Bicycle fitted with "Æolus" Bearings, BEATING RECORD TIME, and in a Five Mile Race BEATING RECORD TIME in Three, Four, and Five Miles.

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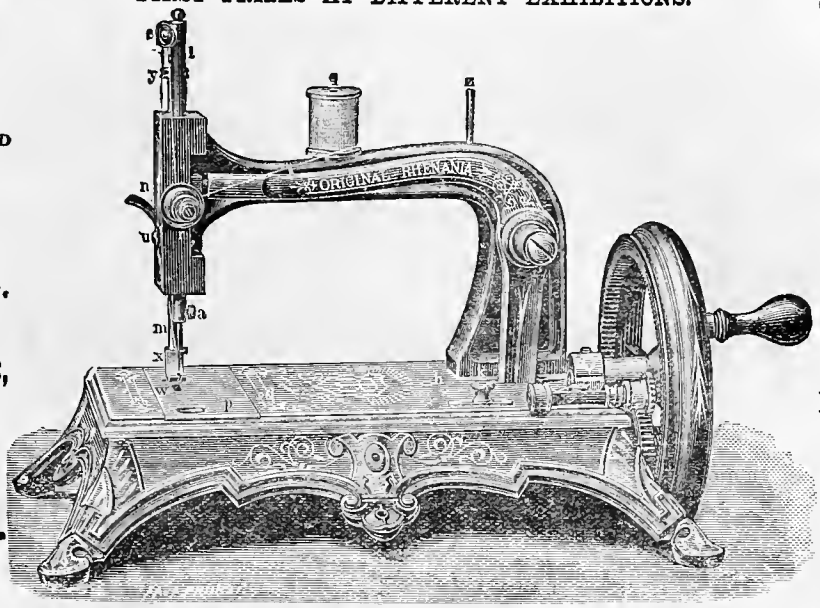

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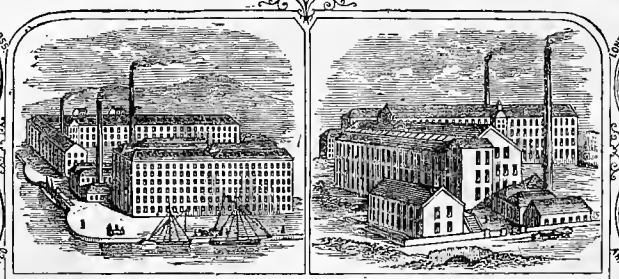

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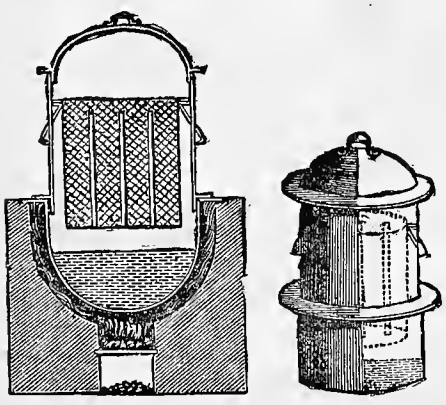

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THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

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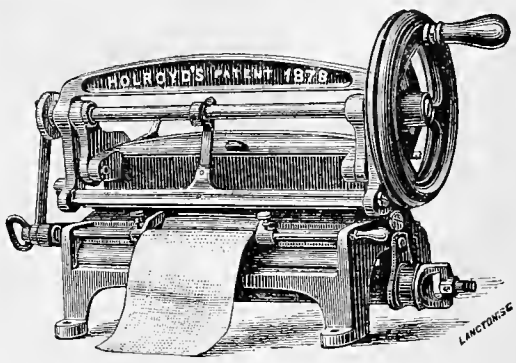

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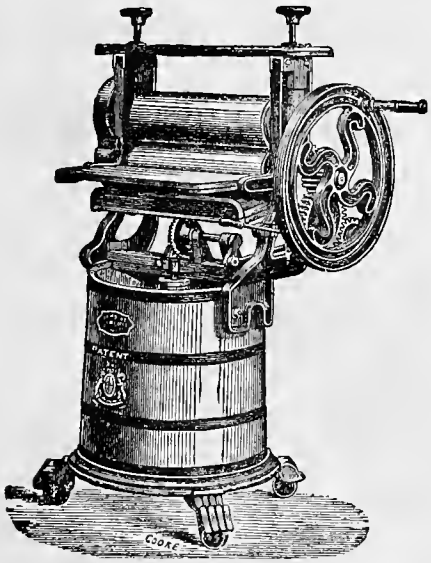

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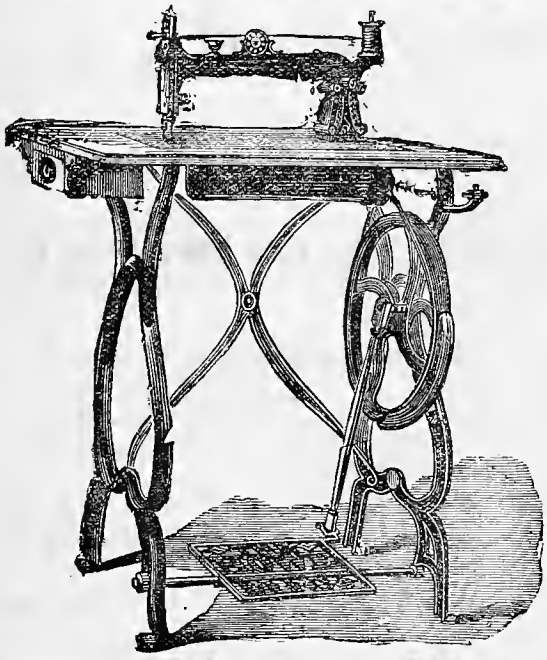

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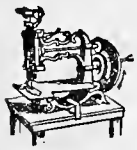

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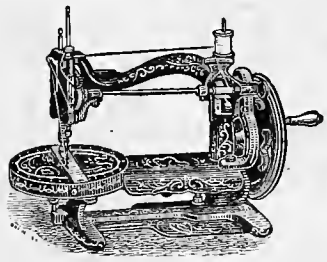

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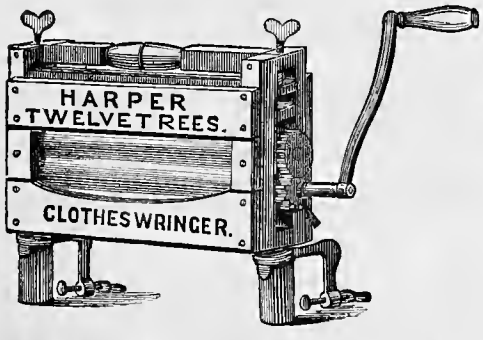

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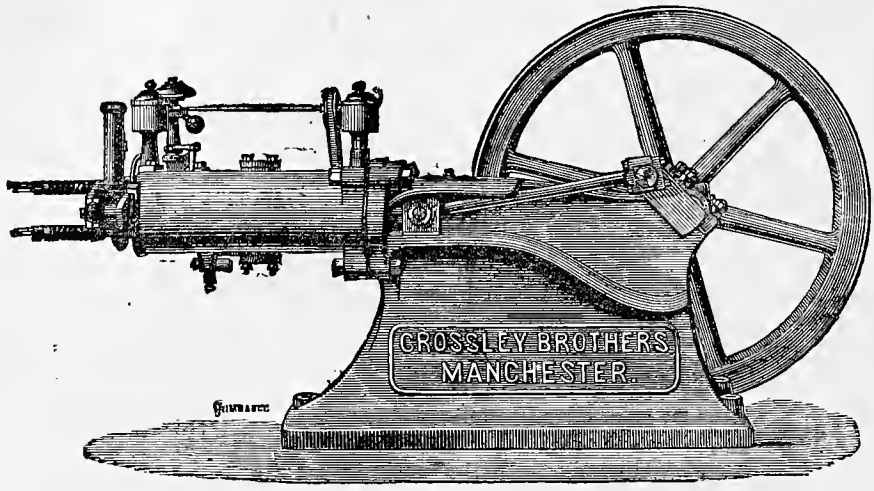

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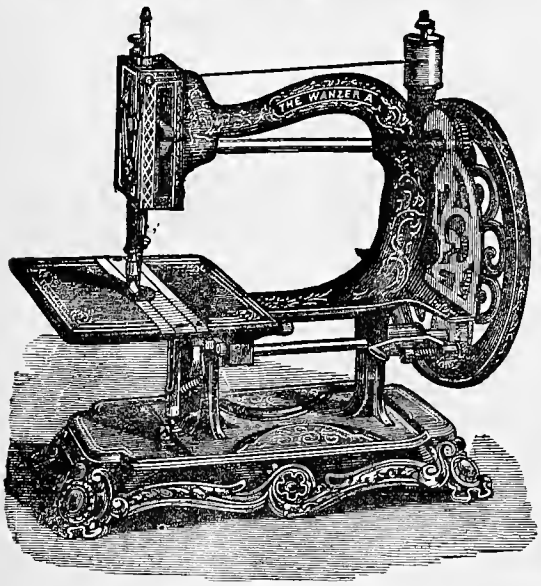

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NEW INVENTIONS REFERRING TO SEWING AND DOMESTIC MACHINERY.

IMPROVEMENTS IN BICYCLES.

The object of this invention is to facilitate the escape of bicycle riders from their bicycles when accidents occur, and to prevent their becoming entangled therewith in such cases, and also affording an easy mode of dismounting. This is effected by dispensing with the steering handle, as ordinarily fitted, and substituting a pair of steering handles constructed as follows:—To the lower end of the fork, which usually terminate with the hubs, add elongations downwards below the radius of the cranks, and so as to clear the same. These elongations to the fork are then bent outwards to a sufficient distance to clear the cranks and pedals or stirrups. These elongations are then turned upwards, and terminate in suitable handles, one on each side of the rider. In case of an obstruction to the motion of the bicycle, or any other accident occurring, the absence of the ordinary steering handle enables the rider to jump off with facility and save himself from injury, as the rider's knees are free from impediment to his so doing. The elongations above mentioned may be constructed of solid metal, tubular metal, or any other suitable materials, and of one or several pieces, and suitably strengthened at the bends to insure the necessary stiffness. Provisional protection for this invention has been obtained by Mr. Joseph Goodman, 16, Hercules-buildings, Lambeth-road, S.E.

IMPROVEMENTS IN BICYCLES.

This invention consists in improvements in the construction of bicycles, by means of which the machine can be propelled with perfect ease, at a rapid speed, and with increased safety to the rider as compared with such machines as ordinarily manufactured, whilst at the same time it possesses great simplicity of construction, and can be easily managed and controlled by the rider. The two wheels are formed of the same diameter, and, instead of being placed one in front of the other as is usually the case, they are arranged parallel to each other on the respective ends of an axle, the centre of which, that is to say, that portion which is situated between the wheels, is in the form of a hoop or loop. From the axle and between the wheels is suspended a frame, on which is mounted, at a point below the centres of the wheels, the saddle, which is so arranged as to admit of its being raised or lowered, in order to adjust it at the proper height from the ground to suit the length of the rider's legs. Brakes are arranged on each side of the lower part of the frame so that the rider, by actuating one or both by pressing thereon with his feet, can guide the machine or arrest the progress thereof, as desired; when the pressure is removed the brakes are brought to their normal position, clear of the ground, by the action of springs. It will be readily understood from the above description that the whole of the weight of the rider is suspended or hung below the centres of the wheels, whereby all danger of the machine being over-balanced is entirely avoided, and as the peripheries of the wheels project beyond the body of the rider, they serve to protect him from injury in the event of the machine coming into contact with any obstacle. When the rider is seated on the saddle his body will pass through the before-mentioned hoop or loop of the axle, and, in that position, by lightly touching the ground with his feet and moving his legs as when walking, at the same time pushing the hoop or loop with his hands, he can propel the machine with the greatest ease. In some cases the frame is extended above the axle, and a pulley or small wheel is mounted on the upper part of each side of such extended portion, and over the said wheels or pulleys are passed endless bands, cords, or chains, the same being also passed over wheels or pulleys connected to the centres of the wheels of the machine; by means of this arrangement the rider can, with or without the assistance of his feet, as hereinbefore described, propel and steer the machine by simply pulling the said bands, cords, or chains with his hands. Letters patent have been granted for this invention to Mr. James Symes, of Dublin.

AN IMPROVED MACHINE FOR CLEANING AND POLISHING TABLE KNIVES AND FORKS.

The inventor, Mr. John Pinchbeck, of No. 11, Bridge-street, Westminster, who has obtained provisional protection, thus describes his invention:—I take a piece of wood of suitable size and thickness, into which I work a recess to receive a pad of vulcanised indiarubber or other pliable substance. The recess not being so deep as the indiarubber is thick, allows it to project or stand up about a sixteenth of an inch or so above the wood. On each side of this pad I place a steel flattened C spring, the lower limb of which is firmly fixed to the wood base aforesaid by means of bolts and nuts, and on the top limb of the said C spring, a bearing is fixed by means of screws. Each bearing forms part of the sides of a hopper into which the emery or other cleaning powder is placed. In these bearings revolve a spindle upon which a roller of vulcanised indiarubber or other suitable substance is fixed, and at the extremity a crank handle by which motion is imparted to the roller. The C springs have the power to cause the roller to bear hard upon the stationary pad between which the blade of the knife to be cleaned is inserted. Two adjusting thumbscrews are tapped into the upper limb of the C springs, the points of which rest on the lower limbs of the same, so that the necessary pressure may be regulated, while the flexibility of the springs allow the roller to assume any angle to the fixed pad to allow for the unequal thickness of the blade. The emery or cleaning powder falls through a narrow slit in the hopper on to the revolving roller, thus keeping it supplied with fresh powder.

IMPROVEMENTS IN TRICYCLES.

This invention relates, in the first place, to a mode of locking and guiding the steering wheel, so as to leave the arms at liberty to be used with the legs in driving the tricycle, and consists in the arrangement and combination of the parts, in the manner hereinafter stated, whereby the steering wheel can be locked or steadied, as required, by the pressure of the rider's back, and receive the necessary guiding from the action of either of his shoulders respectively. The locking or steadying of the steering wheel, as required, is effected by means of a stud or projection on a pivoted arm or lever, which stud is caused to fix the guide bar by the pressure of the back of the rider against the back-board, thereby acting on one end of the said arm or lever, and is withdrawn therefrom (so as to liberate the guide bar) by the reaction of a spring against the opposite end of the arm or lever on the removal of the pressure from the back-board. When the guide bar is thus liberated it is free to be acted upon by the pressure of either of the shoulders of the rider against a cross piece at the upper part of the back-board, so as to guide the steering wheel either to the right or left hand through the connection of the guide bar with the fork of the said wheel. By the arrangement of the parts, as above stated, when the shoulder of the rider is about to press on the transverse limb of the back-board, his back naturally assumes a position which takes the pressure off the vertical limb thereof, and liberates the end of the arm or lever connected therewith, the opposite end of the arm or lever being then acted upon by the spring so as to withdraw the locking stud from the guide bar, and leave it free to be acted upon, as required, for the purpose of guiding the tricycle. And when straight driving is again required, the steering wheel is locked by the pressure of the back on the vertical limb of the back-board causing the stud to press against the guide bar. And this invention consists, in the second place, in the adaptation and application to tricycles of the parts and arrangements hereinafter stated. One wheel is rightly fixed in the usual way on the axle, which is double cranked, the other rotating with an ordinary box, but with the friction increased considerably by means of a ring of india rubber impinging on the collar of the spindle, and also on the hub, so that when not rotating at the same speed as the driving wheel the friction is great, but not so great as to interfere with turning, but when rotating at uniform speed with the driving wheel, nearly half the driving power is communicated to it by the said ring of india rubber. The cranks are acted upon by rods connected to the lower ends of two oscillating bars, the centres of which are on each side of the fork of the small or steering wheel. These bars extend to the same length above and below their centres,

and have the pedals fixed at the upper parts, so that the force of the legs is applied in a horizontal direction, or nearly so. A handle is fixed to each connecting rod at a short distance from the crank in such a manner as to admit of the tricycle being worked by the hands independently of the feet, or *vice versa*, and also to admit of the handles with their connections being used for the purposes of a break. Provisional protection only has been obtained for this invention to Mr. J. H. Walsh, editor of *The Field*.

LAMPS FOR SEWING MACHINES.

This invention consists in enclosing the light in a metal covering containing upon one side of it a circular opening, in which may be placed a lens; within this case or covering upon the opposite side of the light is placed a reflector of metal or glass, pivotted so that it can be adjusted to any angle to throw the concentrated light which passes through the opening containing the lens upon any object within focus. To adapt this lamp to sewing machines, for which it will be found exceedingly useful for throwing the light directly upon the needle and work, the inventor uses by preference a bent arm, consisting at one end of a tubular piece, which fits over the spool carrier, and has attached to it a projecting bar to act as a substitute for the spool carrier on the machine. To the other end of this bent arm he attaches a carrier for the lamp, jointed to the arm, so as to allow of the lamp being placed in any required position. Or an arm or bracket can be used, with or without a cramp, to attach the lamp to the table or to any piece of furniture, or the lamp made to stand upon the table. The inventor, Mr. R. Bourne, of Birmingham, obtained provisional protection only.

THREAD HOLDER FOR SEWING MACHINES.

The invention is an appliance to a sewing machine to be used in lieu of a bobbin and pin. The appliance is in the form of what is generally known as a Tyrolese-box, and may be made of sheet-metal, pasteboard, papier maché, or other similar material or substance. On and around the circumferance of the box or cylindrical tube, and midway of its length, a grove is formed to receive the eye of a wire clip. The clip is formed with two arms, one arm being formed with an eye, into which the other arm of the clip is held when the appliance is attached to any convenient part of the sewing machine. The invention protects the thread from dirt, the thread being enclosed and held by the box or cylindrical tube, from the interior of which the thread is unwound more readily and evenly than when unwound from off a bobbin. The inventor is Mr. Gustave Touissia, of Paris, who has obtained provisional protection through Mr. H. G. Grant.

IMPROVEMENTS IN PERAMBULATORS.

This invention consists in the construction of parts of perambulators (being that class of vehicle employed for carrying persons) so that one portion is capable of being reversed, the object being to shelter its occupants during any severity of weather. The inventor describes his invention thus:—I construct the body proper of the vehicle somewhat as hitherto, and of any desired form to suit my requirement; to this said body I permanently secure the handle; the seat, back, and sides, with heel board, which are independant of the body, I cause to rotate by means of a pin or pivot passing through, or in some case affixed upon the base or bottom of the vehicle, secured by a cotter pin or other suitable means. In order to facilitate the rotary movement of the said seat and parts which I may designate a chair, I employ a circular bowl at or near the pivot, traversing the bottom, receiving the weight, and relieving the pin or pivot of undue strain. The inventor is Mr. James Lloyd, of Birmingham, who has received provisional protection for the same.

An English country editor was imprisoned for contempt because he put this head-line over a report of the proceedings of an election investigating committee: "Strange Conduct of Loyal Commissioners." A few American head-line fiends would drive England frantic.

MACHINISTS AND APPRENTICES.

From our mechanical and other exchanges we hear frequent moans about the deficiency in manual skill of the new generation of metal workers. The foreboding is even expressed that the supply of competent machinists must continue to fall off until American manufacturers have to yield the palm of excellence once more to Europe. This evil state of things is attributed mostly to the discontinuance of the old apprentice system, and it is specially urged that our sewing machine shops, gun factories, and the like—where a large number of pieces of one kind have to be made, and where cunning machinery takes the place of several manual processes—are responsible for the inefficiency of the average workman. The ground of this reproach is that variety of experience is not afforded to the mechanic, and that he becomes a mere adjunct of the special tools employed. No way out of the difficulty is suggested, but we notice that a large manufacturing company in Massachusetts—now engaged on sewing machines—has devised a plan three and four years apprenticeships, as if to do its part in averting the reign of incompetency.

We really cannot share in the apprehensions of our friends as to the general decline of American handicraft. It seems to to us rather that there is here a misuse of terms. We should not expect, under present conditions, that all men who work in machine-shops shall be *machinists*. Custom may have encouraged them to use the name themselves, but that does not make them so in fact. The multitude of our mechanical wants outgrow speedily the possibility of fabrication only by skilled craftsmen. The very immensity of our country, relatively to population, made the urgency for devices that should replace or abridge the processes of manual toil. Hence have we developed, without particular effort at training, an army of inventors who surpass all the world besides in fertility. Hence, also, our system of production has divided mechanism into two broad classes—the gifted minority who work with intelligence, and the unprogressive crowd who merely contribute a kind of skilled labour. The former are those to whom we intrust special tasks, wherein judgment, taste, and calculation have their parts with dexterity. The latter have no more real title to be considered machinists than a man has to be called agriculturist whose experience is limited to planting potatoes and hoeing corn.

But we also contend that these two classes of workmen were as broadly distinct under the old system of apprenticeships as they are to-day. Of any group of a dozen boys in the machine shops of the past there was never more than a small proportion who came "out of their time" in the condition of genuine skilled craftsmanship. These were the youths who possessed diligence and ambition, who accepted the teachings of their seniors with docility, and who studied the resources of their tools and material in order to do creditably that which was given them to do. The remainder became "journeymen" merely by the lapse of years, for they settled down into vice-hands, lathe-hands and the like, almost as definitely, as if they had been apprenticed for no other purpose. And it is a fact to-day that even in the abused sewing machine shops, a boy who displays such merit as above outlined, will not be left to the drudgery of a single speical tool, but will be utilised in all directions until the circle of his experience shall embrace every process and every tool on the premises. There are very few foremen but delight to encourage such a lad, and if, in addition to these opportunities, he has the faculty for study and reflection—without which no machinist ever amounted to anything—he can scarcely fail to become an accomplished workman. Sbch a man will at any time be welcome in a general engine-works, railroad-shop, or other mechanical factory, and in a few years he would be as well able to take charge of a shop himself as the best apprentices of the seven years' routine. Meanwhile his familiarity with special tools and their possibilities will have enlarged his conceptions, and fitted him better for the machine shop of the future, wherein the true machinist will be but the creator and guardian of so many automatic processes.

In brief, though there are no indentures, the best results of apprenticeship are attainable in almost any of our large factories to a boy of the right kind, and if his employers are not actually bound to consider him a pupile it is certainly their

interest to develop what talent he has, while he retains himself that liberty of action and movement which is the sovereignty of Americans. Nor do we intend by these views to descry the experiments in apprenticeship now being tried. Whether by this means, or technical schools or any other agency, we sincerely wish the improvement of American handicraft. All we want is to have things called by their right names, and to make clear the part of our sewing machine factories in the mechanical training of workmen. They are not in the nature of universities, but they are certainly not bad schools, and we opine very strongly that there is no school now extant in which the craft of Tubal Cain is completely taught. The day has gone by for ever when any machinist could make any and all machines in their entirety.

TRADE IN CYCLES, SEWING MACHINES, &c.

Few departments have undergone greater development of late than that devoted to the production of velocipedes in the various forms of bicycles, tricycles, and quadricycles, for which the demand of late years appears to be practically unlimited. Up to a comparatively recent period, bicycles were almost unknown out of this country. Now, however, the demand for these machines is becoming as general and urgent abroad as it is at home, and from all parts of the Continent and South America, as well as from India and the Colonies, orders are arriving by nearly every mail in increased quantities, and for machines of a higher class. Although Coventry was the original seat of the manufacture in this district, and some of the best machines produced are still obtained from the "city of spires," the machinists of Birmingham have long been engaged in the manufacture of the parts and bearings or fittings of bicycles, and it has been a comparatively easy matter for them, therefore, to commence the production of complete machines. This transition or development of industry has been a good deal stimulated by the long depression of the sewing machine and other branches of a kindred character, which are most nearly allied to the bicycle manufacture, and in many cases works which were erected for the production of guns, sewing machines, clockworks, lathes, &c., are now devoted to various kinds of pedal locomotives. Among the principal local makers of these machines is the Royal Sewing Machine Company (Limited), of Small Heath, which was originally established, as the name indicates, for the exclusive manufacture of sewing machines. A large business is still done by the company in lock-stitch hand-machines, which appear to have quite superseded of late the old pedal-stitching machines, at all events for domestic use, but the most advancing department of the company's business is that devoted to the production of bicycles and tricycles, to which they are constantly adding, but their most popular types are the "Royal Mail" bicycle, with patent adjustable handle. "Æolus" ball-bearings, which are applicable to front or back wheels or pedals, are manufactured here by Mr. William Bown, of Summer-lane, who is also a large maker for the trade of general stampings in iron, and steel fittings and every requisite for the bicycle manufacture, as well as roller-skates on the Plimpton and other principles. The Cycle Company, of Charlotte-street, are also the makers of some popular and valuable patterns. Amongst the latest and most formidable competitors in this branch may be mentioned the Birmingham Small Arms and Metal Company (Limited), of Small Heath, who, having a costly plant, extensive premises, and a powerful staff of skilled machinists, possess unusual facilities for entering upon the trade. The company was established for the manufacture of military guns on the interchangeable principle, but as most of the European Governments now make their own small arms, and even the British Government is compelled to keep the Enfield factory supplied with orders, there is not much scope for private enterprise in the manufacture of military rifles. The company have consequently turned their attention to bicycles, and have just placed in the market a somewhat novel machine, the "Otto," which, unlike other machines of its class, possesses two wheels of equal size, which are fixed parallel to one another, as in a tricycle, with the seat between them. The rider's feet rest upon treadles fixed upon a double-throw crank, at either end of which are grooved pulleys, connected by means of endless driving-metal bands with other pulleys incorporated with the hubs of the large wheels. By the simple turning of a handle the machine can be instantaneously turned in any required direction, as the wheels both drive and steer, and there is a powerful break to each wheel, so that the machine can be stopped in a few yards, even when travelling at a high speed. The "Otto" is available for ladies as well as gentlemen, and its use can be learned easily and without any risk of falls. Bicycles of the ordinary kind are in growing request just now for various Continental markets, for the Cape, India, Australia, and even the United States, where, in spite of the high tariff, it is apparently found cheaper to import than to manufacture. A considerable impulse is likely to be given to the trade this spring by the wise resolution of the three railway companies who serve the Midlands to reduce the carriage rate from the 1st inst. by 50 per cent. on bicycles and 75 per cent. on tricycles.—*Ironmonger*.

ELECTRIC LIGHTING FOR DOMESTIC PURPOSES.

A few weeks ago an interesting exhibition of electric lighting took place, under the auspices of the British Electric Light Company (Limited), in the large hall of the Palace Chambers, Bridge Street, Westminster, the object of the gathering being an inspection, with the aid of practical illustrations, of Mr. Lane Fox's system of lighting and apparatus applicable for domestic use. The hall was pleasantly lighted by groups of small incandescent lights, altogether 15 in number, worked by a Gramme machine, and the system was explained minutely and with great perspicuity by Mr. Lane Fox, many questions being interposed and replied to during the progress of his remarks and experiments. The most important feature of Mr. Fox's system appears to be a combination of equable regulation with easy distribution, the construction and action of the lamp, which was submitted to minute examination, being a matter of detail to be worked out by experience and a union of practical minds. In opposition to the prevalent notion, Mr. Fox maintained that electricity is, under his system, applicable for heating and cooking no less than for illumination, and his sanguine view on this branch of the subject was fortified by the boiling of some water in a small vessel within two or three minutes, an attempt to make coffee having previously failed through a defect, as was stated, in the machine, which was newly-constructed. Cooking, too, as well as lighting, he contended, may be done far cheaper with the electric motor than with its now dominant rival, gas. The "Lane Fox" lamp, it may be added, is almost identical with that of the Edison, Swan, and Maxim, having several important additions on the method of distribution and regulation, the result of many years' labour.

SMOKE-ABATEMENT APPLIANCES.

As several inquiries have been made, and as some doubt appears to exist on the part of many manufacturers, as to the intentions of the Fog and Smoke Committee, we are in a position to state that the projected exhibition at South Kensington has been postponed until the autumn. This course has, in our opinion, been wisely decided upon for more reasons than one. As the movement may rightly be termed a national one, it is indispensable that it should not be carried out in too hurried a manner. Already about 150 applications for space have reached the Committee, and so much interest has been shown in the question that a considerable number of additional applications are anticipated. It is now seen that the space originally placed at the disposal of the Committee by the Commissioners of the Exhibition of 1851 is not sufficiently large for the intended purpose. The joint Committees of the National Health and Kyrle Societies, with Mr. Ernest Heart at their head, have therefore represented these facts to the Commissioners, who have courteously promised to provide them with the additional room necessary. Had the exhibition been held in the spring, as originally suggested, it was felt that sufficient time would not have been allowed to bring together such a collection as the Committee desired, and, as many manufac-

turers intimated their inability to prepare their intended exhibits inso short a time, many valuable inventions would have been necessarily shut out. Again, the postponement will enable several foreign exhibitors to be present, who otherwise would have been excluded. The length of time that now intervenes before the opening will also enable the promoters to introduce certain interesting features bearing upon the object they have in view, and we shall probably see several independent specimens of the houses of other countries and their systems of heating illustrated. Gas, it is expected, will be largely represented, as bearing directly upon the system of smoke abatement, and all other descriptions of heating or cooking apparatus, whether virtually smoke-consuming, or tending to its diminution by the economisation of fuel. Furnace-bars and smoke consuming appliances for manufacturing purposes will form a distinctive class, and fuel of various kinds will be admitted. It has also been decided to include improved ventilating appliances, chimney-cowls, &c. The Duke of Westminster, the President of the National Health Association, has just given a donation of £50 towards the preliminary expenses.

CIRCULATING-PIPES OR GAS-HEATERS?

Householders who luxuriate in the possession of a bath, and enjoy their plunge therein all the year round, may be pardoned if they have grown somewhat confused under the conflicting evidence latterly brought forward as to the drawbacks attendant upon the adoption of the ordinary methods of securing the hot water necessary in cold weather. During the present winter kitchen-boilers have exploded with such alarming frequency and with such serious results, owing in many instances to the stoppage of the circulating-pipes by ice, that thousands of persons have resolved to abandon that means af obtaining hot water in favour of some method which does not involve the use of a network of pipes or the employment of cylinders, containers, and the like. The readiest alternative which has suggested itself to the majority of those who desire a change has undoubtedly been heating by gas, for doing which economically and efficiently many excellent contrivances are placed before the public through the medium of the trade. Here, however, we are placed on the horns of a dilemma. Having resolved to avoid the dangers of bursting boilers and circulating pipes, the unfortunate householder is confronted with the far worse consequences which are alleged to have resulted in many recent instances from the use of gas-heaters. At Leicester a lady has been found dead in her bath; at Brighton a gentleman has died under similar circumstances; and at Penge, near the Crystal Palace, another gentleman has just fallen a victim in the same way. The gentleman last referred to was Mr. Deacon, a solicitor. He entered his bath-room shortly before midnight on Monday week, and not being heard for a long time, the room was forcibly entered, when the unfortunate gentlemon, who was only 30 years old, was found dead. At the inquest the medical evidence showed that deceased was a healthy man, and that death had been caused by inhaling carbonic acid gas and carbonic oxide. ‘ The atmospheric burners used for heating the water of baths similarly constructed to the one used by the deceased," said the surgeon, " were extremely dangerous. They threw off a considerable qaantity of poisonous fumes. Carbonic acid gas and carbonic oxide did not kill by suffocation, but by direct poison. The effect upon the brain was very similar to the inhalation of chloroform." *During the last fortnight, the witness said, he had attended six persons who were similarly attacked after using baths fitted in this way.* Two servant girls had narrowly escaped with their lives. These are exceedingly serious statements to go forth to the public, who will naturally be prejudiced against the use of gas for heating bath supplies. They should, therefore, receive the immediate attention and investigation of all manufacturers of this class of fittings and appliances, with a view to something being said and done to reassure the minds of the public and of the trade, to the members of which householders naturally and properly resort for advice and assistance under the circumstances. This is equally necessary, whether the burners which have caused these accidents were common, unprotected, and unscientific rings, or better made and more skilfully-devised apparatus.—*The Ironmonger.*

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Anglo-American Laundry Co., 51, 52, Faun-street, E.C.
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Ashby, Walter, Rotherhithe New-road, S.E.
Association for Promoting the General Welfare of the Blind, 28, Berners-street, W.
Bailey, Bros., 25, Chancery-lane, E.C.
Barnard, Bradley, St. Paul's-road, N.
Barnardo, Dr., East-end Juvenile Mission, Stepney-causeway, E.
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Beauchamp, John, 205, Gray's Inn-road, W.C.
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Bell, John M., and Co., 491, Oxford-street, W.C.
Besson, F. and Co., 195, Euston-road, N.W.
Bevis, Henry, 140, Pentonville-road, N.
Boyle, Robert, and Son, 64, Holborn-viaduct, E.C.
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British and Foreign Bible Society, 146, Queen Victoria-street, E.C.
Brown, B. F. and Co., 18, Norman's Buildings, E.C.
Browne and Co., 186, Piccadilly, W.
Browne, Justin, 239, Euston-road, N.W.
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Camerer, Kuss and Co., 522, Oxford-street, W.C.
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Chorlton and Dugdale, 19, Blackfriars-street, Manchester.
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Davies, Mrs. G., 132, Albany-street, N.W.
Davis, Alfred A., 46, Buckingham-road, N.
Davis, Joseph and Co., 6, Kennington Park-road, S.E.
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Edwards, Geo., 182, Kingsland-road, N.
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Ewart and Son, 346, Euston-road, N.W.
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Gent, T. J., and Co., Faraday Works, Leicester.
Geyelin and Co., Belgrave House, Argyle-square, W.C.
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CURIOUS INDUSTRIES IN NEW YORK.

In the course of inquiries instituted in New York by the Superintendent of the Census, some singular industries have been brought to light. In New York city and Brooklyn about 3,000,000 pairs of old shoes are thrown away every year. Old shoes used to be plentiful in the gutters in some parts, but they are now scarce. They are picked up and used, it appears, for three purposes. All those not completely worn out are patched, greased, &c., and sold to men who deal in such wares. Some persons wear one shoe much more than the other, and those dealers find mates for the less worn shoes. Next, the shoes not worth patching are cut into pieces; the good bits are used for patching other shoes, and the worthless bits are converted into Jamaica rum, by a process known only to the manufacturers. It is said they are boiled in pure spirits and allowed to stand for a few weeks, and that the product far surpasses Jamaica rum made in the ordinary way. A manufacturer of tomato catsup, who gave the value of his manufactured product at 18,000dols. and that of his raw material as nothing, stated that every year he sends clean tubs to the wholesale houses that can tomatoes, with the understanding that the women who trim and peel shall throw the skins into these tubs. Every day the tubs are removed, their contents ground up, fermented, flavoured, and sold as tomato catsup. Another strange and certainly pernicious business is the manufacture on a large scale of cheap candies from white earth or *terra alba*, mixed with a little sugar or glucose. Sometimes 75 per cent. of candy is composed of this earth. What is called a fine brand of Castile soap is composed chiefly of the same white earth and grease. Once more, a considerable business is done in finishing in New York foreign goods imported in an unfinished condition. Thus heavy duties are saved, though they are sold as imported goods.

Bleaching Ivory for Cutlery Purposes.—Mr. A. H. Mason, discoursing on the subject of peroxide of hydrogen before the Liverpool Chemists' Association recently, said:—"It is used in Sheffield to bleach the inferior ivory for knife-handles. The liquid is supplied by an ivory-dealer in London, and it consists of an aqueous solution of peroxide of hydrogen, of which it contains 2.9 per cent. of rather crude H_2O_2. The mode of procedure is as follows:—Place, say, 2 quarts of the liquid in a stone pot, adding 4 oz. liq. ammon. fort. 880°, immerse the handles, and put over a common shop-stove for 24 to 36 hours; the handles are then taken out and gradually dried in the air, not too quickly, or they would split. The deep colour of the ivory is removed, and a beautiful pearly white ivory results when polished. The ivory is previously treated with a solution of common soda, to get rid of greasy matter and open the pores."

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LIFE—Page 102 :—"Common sense denies that any happy chance will do for a man what he is quite unable to do for himself. Our happiness consists in the use of our faculties, and a faith that our wages will be in proportion to our deserts. Success and failure are not dealt out like prizes and blanks in a lottery, by chance and indiscriminately; but there is a reason for every success and failure. Indolence, chicanery, waste will cause the one; while industry, honesty and thrift will ensure the other.'"

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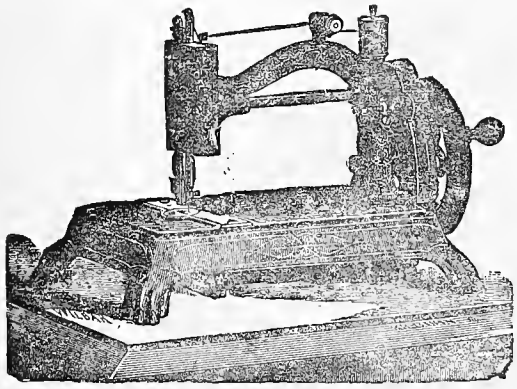

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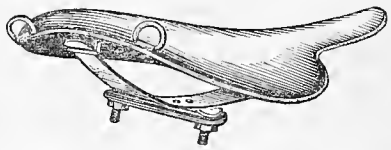

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SEWING MACHINE,

Comprising its History and Details of its Construction, with Full Technical Directions for the adjusting of Sewing Machines.

By J. W. URQUHART.

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The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

THE proposal to still further circumscribe the statute of limitation on debts not exceeding one hundred pounds to twelve months instead of six years is one which is naturally exciting a considerable amount of attention in the commercial world. The tendency to limit terms of credit is,

we are glad to say, decidedly on the increase. The good old-fashioned way of sending in tradesmen's accounts once a year, at Christmas, with an "account rendered" the following midsummer is rapidly dying out, and in fact only exists in the west-end of London, Bath, Cheltenham, Leamington, and a few other places of aristocratic resort; but we are inclined to think that the proposed measure of reform goes a little too far. It is not at all uncommon for the creditor to lose sight of his debtor for twelve or eighteen months at a time. It would be surely a little too bad if a debtor could obtain a legal release from all his liabilities, provided he in no case owed a sum not exceeding one hundred pounds to each creditor, by the simple process of residing some twelve months on the Continent, We think that if two or three years were proposed it might prove to the advantage of all parties concerned. Indeed, we are of opinion that any enactment which will give the trader a fair excuse for affording credit to doubtful customers would be hailed as a boon by the trading classes. In fact Mr. Commissioner Kerr, whose opinion, with all his eccentricities, ought to carry some weight, has more than once expressed his opinion that the sooner all debts are rendered non recoverable by law, and everything is reduced to a system of absolute cash payment, the better. We don't expect our readers, who depend, so many of them, on the easy payment system, to endorse the views of the learned Commissioner, but we think they will none the less agree with us that the credit system is at best a necessary evil.

We publish in another column a preliminary List of Exhibitors at the forthcoming Exhibition of Domestic Labour Saving Machinery and Articles Intended for the Promotion of Household Thrift. It will be seen that the Industries represented by by this Journal have taken up the matter in earnest. All the leading houses in the Sewing and Domestic Machinery Trades will be represented, and we have reason to believe that some striking novelties will be on view in the various departments. Among other things, we hear of a new tricycle, which is likely to attract a considerable amount of attention. All the space has been let; the arcade and approaches will be handsomely decorated; two bands will play at intervals during the afternoon and evening; and altogether it promises to be a most successful Exhibition. We strongly advise all of our readers who can possibly spare the time to spend a day at the Agricultural Hall. They will find plenty of amusement and instruction, and we may fairly congratulate the promoters upon the success which has attended their efforts.

There have lately been some very important improvements in bicycles and tricycles. Almost every day some inventor lodges in the Patent Office an application for protection for some improvement or other. A novel feature is certainly the application of steam, and we believe a tricycle worked by a small steam engine will be shown in operation at the forthcoming Domestic Labour-saving Appliances Exhibition. Not by any means a mean improvement is that recorded in another column, in which the handle is so constructed that the rider can jump off forwards when an accident is imminent. His knees are quite free, and he can thus avoid the approaching "cropper." We notice one inventor intends doing away with the small hind wheel, and making bicycles with two large wheels placed side by side; while there are many patents for improved cranks and ball bearings. Surely bicycles and tricycles will soon be perfect as it is possible for human beings to make them. We are glad to note that the tricycle is fast increasing in favour with both ladies and gentlemen. It was at one time, and is now, looked down upon by the male sex as somewhat effeminate; but still, it is the more substantial, sensible article of the two, and with steam-power nothing can beat it as a means of pleasant locomotion, most especially for long tours through the country.

OUR ILLUSTRATED SUPPLEMENT.

We give this month an illustration of Mr. A. Furlong's shirt collar and cuff ironing and polishing machine, which will be seen in operation at the forthcoming Domestic Labour Saving Appliances Exhibition. Over 200 of these machines are in use in the United States, and they are of great value to large schools, public laundrys, and other large institutions. It will be seen by the illustration that a steady and uniform pressure is exerted upon the work by the means of the spiral spring at the top, which is capable of being instantly increased or diminished by the use of the screw and wheel at the top, thereby insuring uniformity of finish without effort upon the part of the operator. The bed upon which rests the work is heated, thereby presenting two heated surfaces to the work, viz., the bed and iron, which is either heated by gas or in the ordinary way. The address of the manufacturer is 52, Fann-street, Aldersgate-street, E.C.

An amendment of the Patent Law has been introduced into the House by Mr. Anderson, which, should it pass, will have the effect of considerably reducing the fees payable in taking out a patent, and will likewise simplify the process.

A correspondent writes us from Ireland that the present agitation has left its taint on business men, there being a strong feeling in existence against English firms. Irish manufacturers, our correspondent believes, would, for the most part, be very glad to close all commercial relations with those doing business in England, if they were able.

It is not generally known amongst machinists that all mineral oils, such as paraffin, which is commonly used by some, not only tends to wear away the "parts" of a machine, but is fatally destructive to any elastic, should it come in contact with the rubber.

To prevent work-tools from rusting, apply with a brush a mixture of benzine and white wax, prepared in the following manner:—Carefully heat the benzine, and then place in it half its weight of white wax, leaving it until it is completely dissolved. Linseed oil, applied in the same manner, is likewise said to be an efficient preservative.

If the forecasts of those who are making a study of the effects of luminous paint are anything approaching what they anticipate, it is within the bounds of possibility that we may one day see our workshops and factories lighted by no other means than a coating of this substance on the walls and ceiling. An experiment of this character was made the other day, and, it is said, with the greatest success.

The Commissioners of Sewers of the City of London are about to try the experiment oflighting by electricity some of the principal streets within their jurisdiction for a twelvemonth, and of testing three of the most accredited systems. The Jablochkoff system will be applied to Southwark Bridge, Queen Victoria Street, and part of Queen Street; the Brush system to New Bridge Street, Ludgate Circus, Ludgate Hill, the north side of St Paul'sYard, and thence along Cheapside as far as King Street; and the Siemens to the remainder of Cheapside, the Poultry, KingStreet, Guildhall Yard, Mansion House Street, King William Street, and London Bridge.

BY SPECIAL APPOINTMENT.

Letters Patent Dated 17th April, 1838.

R. F. & J. ALEXANDER & CO.,

SEWING COTTON MANUFACTURERS

TO HER MOST GRACIOUS MAJESTY QUEEN VICTORIA.

MOLENDINAR WORKS, GLASGOW,

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CROFTHEAD WORKS, NEILSTON.

LONDON WAREHOUSE:

No. 9, BOW LANE, CHEAPSIDE, E.C.

Manufacture all kinds of Sewing Cotton on Reel, Ball, and Card, for Hand and Machine use. Also Knitting Cotton of a very superior quality.

Trade Marks for 6, 4, 3, and 2 Cords—Soft and Glace Cottons.

Best Quality.

Medium Quality.

Cheapest Quality.

Made in all lengths, free from knots, and guaranteed full measure as marked.

These Threads being favourite brands in almost all markets of the world, unprincipled and flagrant imitations are very numerous.

Manufacturers, Merchants, and Consumers are warned against imitations, and requested to take special note of the Trade Marks as above.

Prices of the various kinds, considering qualities, will be found very cheap.

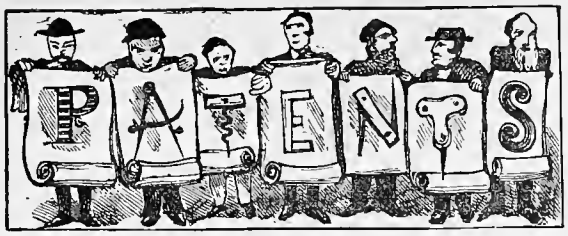
A Gentleman who does *not* use the Blake and Goodyear Machine.

THE WORLD IN A HURRY.

Everybody now knows that it is absurd to talk about, and still more so to sigh for, "good old times." The Laureate has declared that "we are heirs of all the ages in the foremost files of time." He is doubtless right. To-day is older than yesterday; and the further we look back the more of youthful national folly must we see. And yet there was a period when men and women were not always engaged in catching trains, in discounting their pleasures, in ante-dating bills of amusement, or in rejoicing over instalments of intelligence flashed across their bewildered eyes as a kind of heliographic abstract of the good or bad news awaiting them. It is proverbial that men in all ages have made haste to be rich; but there never was a period when the wheel of fortune, the whirligig of fashion, the red and black balls of speculation, and the teetotum of trade revolved with such rapidity as they do now. Falling stars, eccentric comets, and the secular acceleration of the moon possess no greater interest for advanced astronomers than do the means, appliances, and aids, material and moral, to the enjoyment of life, the prosecution of trade, and general aggrandisement, with intensified speed, for all orders of the community. "Go-ahead!" is the motto of humanity, and steady progress has gone out of fashion. There was a time when wind and tide, waiting for no man, had matters very much their own way. A Nelson in pursuit of the enemy might be blown out of his course; and the navies of commerce or war cumbered the seas in a helpless way. But the giant Steam has accomplished more than he who wore the famous "Seven-league Boots," dear to childhood; and a modern Puck, in the shape of Science, puts a girdle roundabout the earth in less than forty minutes. The electric telegraph, declining to follow the sun and keep company with the hours, outstrips time, and throws the best regulated chronometers into a state of agitation and doubt. Clocks are uniform in their records all over the land; space, distance, and locality have lost distinction; and events, as Hamlet's mother said of woes, tread upon each other's heels, so fast they follow. Schoolboys no longer creep like snails unwillingly to school, but are whirled thither by railway; and lovers who would write a ballad to their mistress's eyebrows must prepare themselves to do so while rattling along at sixty miles an hour. Observant students not only run and read, but ride and dine; nay more, they journey in their beds, going to sleep in Aberdeen and waking up in London, with nothing more than a faint memory of a nightmare in the form of panting, puffing, snorting demons, with white, green, and red eyes, to disturb their minds. All the world is in a hurry, and people in the pursuit of pleasure or business, if not bustling from an arrival platform, are rushing, amidst the din of bells and the shouting of guards, into carriages on the departure side of the line!

Periodical literature comes out days in advance of its printed date, and Christmas books make their appearance long before the season of Advent. Almanacks for "the ensuing year" may be bought in September, and "Twelfth Night Characters" have scarcely disappeared before valentines gladden the hearts of amorous swains and delight the eyes of maidens in their teens. In such haste are they despatched that the Postmaster-General makes almost superfluous demands that they should be posted early; and the welcome "Good morrow to St. Valentine!" has no sooner been uttered, than those who greeted the day prepare to speed the parting guest. Winter goods are "sold off at less than cost price," that "spring novelties" may be produced while yet the snowdrop is buried in the ground and frost holds the earth in bondage. These in turn give place to "summer fashions" before the blossom is off the trees and the intrusive cuckoo arrives to occupy his place of usurpation. Fruits, fish, flowers, and vegetables are almost as plentiful out of the season as when they are legitimately "in," and nothing is orderly but irregularity in the arrival of produce from the uttermost parts of the earth. Only the unforseen happens, and merchants seek to spring surprises upon our markets with greater earnestness and zeal than even characterises Mr. Gladstone's action in the political world. Steamboats are propelled at high pressure, and their skippers, in emulation of Mississippi captains, sit upon the safety valves of boilers; barges, wont to float lazily on the surface of the Thames, are tugged furiously along; and launches dart to and fro like fire-flies, endangering the outriggers, which have surpassed the tardy skiff and wherry as surely as express trains have taken the place of slow coaches. There are dress rehearsals of pantomimes before Boxing Day arrives, and private views of pictures in advance of the public exhibition of them. The husbandman not only strives to make two blades of grass grow where only one grew before, but deluges his land with patent manures, and adopts forcing processes that swift and sudden growth may reward his pains, and enable him to keep pace with rivals struggling to be first in gathering a harvest. Every possible effort is made to accelerate the speed of racehorses; and pedestrians walk and run thousands of miles continuously day and night. Swimmers are not content, like Leander or Byron, with crossing from Sestos to Abydos, but remain in the water for a week at a time, and make voyages to sea which would have frightened ancient Britons in their coracles, and taxed the skill of Roman navigators in their stoutest galleys. Journals are printed from endless rolls of paper, and produced by processes which secure almost simultaneous publication to hundreds of thousands; and a perfect Niagara of news is poured over the land without intermission. Photography may be carried on by night; and a system of continuous floating hotels bridges the Atlantic, and virtually provides a ferry to the Antipodes. Short cuts across continents by canals, and tunnels through mountain ranges tend to obliterate the lines of demarcation between nations, and practically bring closer together the members of the great family of man. Locomotion goes on by sea and land in the thickest fog, amidst the excitement of detonating signals, the clashing of monster gongs, and the sonorous roaring of gigantic horns; and garments are made by steam-driven machinery. People cannot stop to run up and down stairs, but take to lifts. The blackest night, equally with the brightest day, knows nothing of rest; "haste, haste, haste, post haste!" is no longer an exceptional cry, but an incessant command. The telephone intensifies and extends the powers of hearing; the lightning has been tamed to obey domestic behests; the pneumatic tube sucks up communications and parcels with the voracity of an octopus; and a network of exquisitely sensitive nerves binds together the whole human race. Flashing signals enable armies at a distance to interchange intelligence with rapidity fleet as a glance of the mind; and the correspondence of business, friendship, and love is carried on by means of stenography. Reporters for the Press habitually transfix thought as it flies, with nimbler fingers than Gurney possessed in the zenith of his fame; and so eager are orators that their speeches should appear promptly in print, that they even have them set up in type before delivery, not to lose time in winning popular applause. State papers find their way into the public journals before they reach Parliament; and magazine articles are in the hands of reviewers before publication. In an astronomical sense the world may be moving in its orbit and on its axis as it has done from the days when "the morning stars sang together for joy" to those of Galileo, and from his time to the present moment; but the peoples of civilisation who tread the great rotundity are rushing about in hot haste and moving on with ever-accelerated strides. No will-o'-the-wisp could rival their phantom-like swiftness of motion; and, watching the inordinate fondness for rapidity of action in process of development, a cynic, pausing for breath amidst the giddy whirl around him, might almost be pardoned for suggesting that, before long, death itself may come to be discounted by a world intent upon performing "happy despatch" in emulation of the suicides of China and Japan.

It is believed that the English Post Office and the railway companies have at length come to an agreement with regard to the carriage of parcels. There is, therefore, no further obstacle in the way of the International Parcels Post which was arranged at the Paris Conference. The result will be, for instance, that a parcel not exceeding 6 lbs. in weight can be handed in at any English post-office and carried to any town in Germany for 1s. 8d.



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 188. J. C. Mewburn—a communication from E. Antoine, of Fourmies, France, for improvements in sewing machines. Dated January 14, 1881.

„ 192. J. Mounsey, spindle and flyer maker, for improvements in the construction of apparatus for spinning and doubling cotton and other fibrous materials. Dated January 14, 1881.

„ 208. R. W. Morrell, of Bradford, merchant, and J. Shaw, of Wakefield, both in Yorkshire, for improvements in machinery or apparatus for preparing, scouring, crabbing, steaming, tentering, drying, and finishing textile fabrics. Dated January 15, 1881.

„ 231. J. Watterworth, of Hull, perambulator maker, for improvements in perambulators, bath chairs, and similar vehicles, partly applicable to Hansom cabs. Dated January 19, 1881.

„ 234. T. C. Fawcett, of Leeds, for improvements in machinery or apparatus for preparing and feeding fibrous substances on to scribbling, carding, or other machines. Dated January 19, 1881.

„ 259. G. Illston, of Birmingham, manufacturer, for improvements in tricycles and other velocipedes. Dated January 20, 1881.

„ 260. J. Turner, of Coventry, Warwick, and J. A. Lamplugh and G. F. Brown, both of Birmingham, for certain improvements in the seats of tricycles, also applicable to other analogous purposes. Dated January 20, 1881.

„ 263. J. H. Smith, of Nottingham, for improvements in knitting machines and apparatus applicable thereto. Dated January 21, 1881.

„ 273. J. Wetter—a communiaction from J. Byfield, of Georgetown, Ontario, Canada, for improvements in knitting machines. Dated January 21, 1881.

„ 282. E. R. Settle, of Coventry, Warwick, for improvements in or appertaining to velocipedes. Dated January 22, 1881.

„ 326. R. H. Brandon—a communication from J. H. Morley, mechanical engineer, of Holyoke, Massachusetts, United States, for improvements in sewing machines and button-feeding devices adapted to be used therewith. Dated January 25, 1881.

„ 336. M. Gandy, of Liverpool, for an improved mechanical motion for imparting intermittent rotary action, particularly applicable as a feeding gear for sewing machines, also applicable otherwise. Dated January 25, 1881.

„ 340. A. Bates—a communication from A. Wintgens, of Dahlhausen, Germany, for an improvement in mules for spinning. Dated January 26, 1881.

„ 356. T. Warwick, of Aston, near Birmingham, manufacturer, for improvements in bicycles, tricycles, and other velocipedes. Dated January 26, 1881.

„ 362. W. H. Skipper, of Three Oak Lane, Horselydown, London, engineer, for an improved sausage filling machine. Dated January 27, 1881.

„ 367. J. H. Johnson—a communication from V. G. Jurian, of Lille, France, for improvements in apparatus for starting, stopping, and regulating the motion of sewing, embroidering, and other machines or apparatus. Dated January 27, 1881.

No. 391. T. Tongue and T. E. Bladon, both of Birmingham, for improvements in bicycle, tricycle, and other lamps. Dated January 28, 1881.

„ 399. E. Buckley, of Manchester, for improvements in the construction of apparatus employed for steaming textile fabrics. Dated January 29, 1881.

„ 419. G. W. Von Nawrocki—a communication from R. Schrke and Messrs. Buldge and Hildebrandt, all of Berlin, for improvements in continuous roving, slubbing and spinning frames. Dated February 1, 1881.

„ 428. H. M. Knight, of Surbiton, Surrey, for improvements in stocking and sock suspenders. Dated February 1, 1881.

„ 433. W. H. Bulpitt, of Birmingham, lamp manufacturer and tin plate worker, for improvements in hand lamps, bicycle and tricycle lamps, and other lamps. Dated February 1, 1881.

„ 450. A. M. Clark—a communication from A. J. Hurtu, of Paris, for improvements in sewing machines. Dated February 2, 1881.

„ 500. W. E. Gedge—a communication from E. Cornely, of Paris, for improvements in sewing and embroidering machines. Dated February 5, 1881.

„ 512. J. White, of Coventry, Warwick, and G. Davies, of Manchester, for improvements in the construction of bicycles, tricycles, and other similar machines. Dated February 7, 1881.

„ 531. W. S. Clark and R. Davenport, both of Manchester, for an improved clothier's pressing and ironing machine. Dated February 8, 1881.

„ 533. W. Mickelwright, of Shepherd's Bush, and A. G. Gladwyn, of Hammersmith, both in London, for improvements in or applicable to bicycles, tricycles, and other similar machines. Dated February 8, 1881.

„ 543. H. H. Lake—a communication from A. K. Hebard, of Cambridge, Massachusetts, United States, for an improved method of, and devices for, stringing pianofortes. Dated February 8, 1881.

„ 570. J. G. Dowd, of Brusna Mills House, King's County, Ireland, for a new or improved mode or method for facilitating the cutting out of ladies' and children's dresses or parts thereof, or other portions of wearing apparel. Dated February 10, 1881.

„ 589. N. Tupholme, of Sheffield, for improvements in mangling or wringing machines, and in the stands and covers thereof. Dated February 10, 1881.

Letters Patent have been issued for the following:—

„ 3,411. W. Morgan-Brown—a communication from B. F. Shaw, of Lowell, Massachusetts, United States, for improvements in knitting machines. Dated August 25, 1879.

„ 3143. S. W. Pohlmann, of Halifax, Yorkshire, pianoforte manufacturer, for improvements in pianofortes. Dated July 30, 1880.

„ 3,148. C. Cresswell, of Loughborough, Leicestershire, for improvements in knitting machiues and apparatus applicable thereto. Dated July 31, 1880.

„ 3,154. J. Hunt, of Bolton, Lancashire, for an improved knife cleaner. Dated July 31, 1880.

„ 3,161. E. Wiseman, of Luton, Bedfordshire, sewing machine merchant, for improvements in sewing machines. Dated July 31, 1880.

„ 3,360. H. Greenwood, of Leeds, machinist, for improvements in sewing machines. Dated August 19, 1883.

„ 3,387. J., C., L., and M. Jefferson, all four of Bradford, Yorkshire, machine makers and ironfounders, for improvements in machinery for washing fibres and fabrics. Dated August 20, 1880.

„ 3,458. W. Clark—a communication from A. Atkinson, of Winterset, Iowa, United States, for an improved combined clothes washer and wringer. Dated August 26, 1880.

„ 3,478. N. K. Husberg, of Stockholm, Sweden, for improvements in the construction and working of bicycles and other velocipedes, applicable in part to other purposes. Dated August 27, 1880.

„ 3,724. R. Howson, of Middlesborough-on-Tees, Yorkshire, engineer, for improvements in pianofortes. Dated September 13, 1880.

No. 4,670. W. H. Dorman, of Stafford, engineer, for improvements in sewing machinery, chiefly designed for the manufacture of boots and shoes. Dated November 12, 1880.

„ 4,691. H. E. Osborne, A. P. Mathewson, and J. Guild, all of Dundee, North Britain, for improvements in or connected with spinning machinery. Dated November 13, 1880.

„ 4,725. A. Capra, J. B. Rissone, and S. Detoma, all of Clerkenwell, London, for improvements in pianofortes and mechanism combined therewith. Dated November 16, 1880.

„ 4,799. T. G. A. Parkyns, of Stapleton, Beckenham, Kent, improvements in the construction of velocipedes and in the means of propelling the same, parts of which are applicable to other vehicles. Dated November 20, 1880.

„ 5,046. J. H. Starley, of Coventry, Warwickshire, for improvements in velocipedes. Dated December 20, 1880.

PATENTS WHICH HAVE BECOME VOID:—

No. 128. W. R. Lake—a communication from S. C. Brown, of Philadelphia, United States, machinist, for improvements in machinery for sewing straw braid. Dated January 10, 1880.

„ 151. W. Carter, of Sneinton, Nottinghamshire, for improvements in bicycles, tricycles, and similar machines. Dated January 12, 1878.

„ 193. R. H. Hutchinson, of Blackburn, Lancashire, cotton manufacturer, for improvements in looms for weaving. Dated January 15, 1880.

„ 217. W. Stead and J. Conlong, both of Radcliffe Bridge, Lancashire, for improvements in drop-box looms for weaving. Dated January 17, 1880.

„ 310. G. Downing—a communication from G. E. Hart, of Newark, New Jersey, United States, for improvements in embroidering attachments for sewing machines. Dated January 23, 1878.

„ 316. J. T. Townsend, of Nuneaton, Warwickshire, for improvements in bicycles. Dated January 24, 1878.

„ 352. W. Holt, of Elton, near Bury, Lancashire, manufacturer, for improvements in weaving counterpanes or quilts for beds. Dated January 28, 1878.

„ 355. G. W. Von Nawrocki—a communication from H. Elbers, of Hanover, Germany, for improvements in apparatus for mangling or smoothing textile fabrics and articles of dress. Dated January 28, 1878.

„ 416. J. Harrington, of Ryde, Isle of Wight, for improvements in bicycles, part of which improvements is applicable to wheels for other vehicles. Dated January 31, 1878.

„ 420. J. and F. V. Richer, both of Twickenham, Middlesex, for improvements in tricycles. Dated January 31, 1878.

„ 454. A. V. Newton—a communication from E. White, of Brooklyn, New York, United States, for an improved spring pressure attachment for sewing machines. Dated February 4, 1878.

Specifications Published During the Month.

Postage 1d. each extra.

		s.	d.
No. 2,073.	J. Dutton, driving mechanism for bicycles, &c...	0	6
„ 2,076.	T. G. A. Parkyns, velocipedes	0	2
„ 2,407.	H. G. Grant, thread-holder for sewing machines	0	2
„ 2,430.	W. R. Lake, sewing and plaiting or quilling machine	0	4
„ 2,436.	J. Lloyd, perambulators	0	2
„ 2,450.	R. Bowine, lamps for sewing machines	0	2
„ 2,493.	J. Lucas, bicycle lamp	0	6
„ 2,507.	M. H. Pearson, machines for sewing boots and shoes	0	2
„ 2,515.	M. H. Gerring and R. E. Rumsey, bicycles ...	0	2
„ 2,540.	T. Humber, T. R. Marriott, and F. Cooper, adjustable double ball bearing for bicycles, &c.	0	2
„ 2,580.	W. L. Wise, apparatus for washing, rinsing, and drying linen, &c.	0	2
„ 2,587.	J. H. Walsh, tricycles	0	2
„ 2,650.	J. Symes, bicycles	0	4
„ 2,707.	J. Pinchbeck, machine for cleaning and polishing table knives and forks	0	2
No. 2,786.	J. Turner, cranks for velocipedes	0	6
„ 2,798.	J. Goodman, bicycles	0	2
„ 3,021.	F. H. F. Engel, locks of knitting machines ...	0	6
„ 3 294.	M. H. Pearson, sewing machines...	0	8

WILL ALL SUCCEED?

Under this heading the *New York Sewing Machine News* gives the following:—

Common sense should teach all aspirants that it is a very difficult matter to drive out or even injure the prospects of old-established companies, no matter what new improvements may be theirs, as superior to those now in use. It is not an easy matter to make the great public forget old and familiar names. Even should they succeed, it is visionary to suppose that the old-established concerns cannot meet them, and hold their own against new comers—if they choose. New concerns should not forget that the odds are greatly against them, as the old companies have experience, and possibly better facilities to sustain their claims for public recognition. But then if a new concern has energy, pluck, endurance, and a goodly store of capital behind them, the chances are in their favour; otherwise, some of them will get badly hurt before they get out of it. This point should not be forgotten; every one in the sewing machine trade knows that millions have been sunk in the efforts to establish machines and reputation; new beginners should make up their mind, that for a while—and perhaps a long time—their road will be up-hill; but with pluck and capital they may succeed. Nevertheless, the chances are against them, and they must look well to their resources before they decide to enter the sewing machine arena.

As we have before stated, too little attention is given to the bearings of the various existing sewing machine patents, by those who enter the field waiting till their company is organised before this matter is intelligently looked into. It is much easier and better to investigate these points *before* one has committed himself, than it is after the capital has been invested on the supposition that the coast was clear. In case it is not, then the trouble begins both in and out its corporate limits. It is an easy matter for an inventor to think that he has invented something new, when possibly it may have been in use for years in some other form, and covering the same points. The patent office is not infallible, so it is not best to put entire trust in that department; but to rely upon the judgement of some experienced mechanical expert who knows more about a sewing machine in one day, than some of the patent experts know in a lifetime. When this matter is properly understood and acted upon, there will be no necessity for a forced back down at the nod of some prior patent. By following this method of previous examination much cash will be saved.

Is it not much better to spend a considerable sum of money in closely examining the sewing machine patents, that it is to go it blind, and eventually find one's self blocked by some prior patent? Common sense should teach men this important fact; but it seems there are, and always will be, some who do not desire to be enlightened on any subject contrary to their wishes.

In placing a new machine upon the market, much depends upon the men who have the arduous task upon their hands. Organisation is generally the stumbling-block which all must encounter, with varied success. A strong organisation, composed of men with sagacity and energy, will often succeed, when really a better class of wares would fail—all for the want of proper executive power at the head. Many are of the impression that if the machine is the best in the market it must succeed on its own merits. Such a fallacy has often been tried—and failed. The company organisation and executive ability is the true point as to whether a venture will prove successful or a failure. A weak organisation and a good machine is sure to bite the dust; while a poor machine and a strong organisation will, in all probability, prove a success in some form or other.

As we remarked above, we should like to see them all successful; but fear we shall not, judging from past ventures in the sewing machine line. Instances are not rare, where the

failure of this or that sewing machine venture can directly be attributed to the causes that we have pointed out. If those who are about to enter the field as competitors do not take the points herein mentioned into consideration, the chances are that they will see the time when they will wish they had kept their fingers out of the fire. There is not the money in sewing machines that there was previous to 1876, when prices were much higher than they are now. At present, even the older companies are compelled to look sharp after every expenditure, in order to enable them to pay respectable dividends. If they have to manage affairs sagaciously, in order to make both ends meet, how much greater the necessity for new concerns to go slow, and know every inch of ground they go over.

As we said in our last issue, some half a dozen new machines are getting ready to make their appearance upon the market. It is not reasonable to suppose that all will prove successful—as much as we would like to see it; yet those who take time by the forelock, and look well into the patent question, and are generaled by executive men, will stand a fair chance of making a name; while those who do not heed these two important points, but rely upon the goodness of their products for success, will in all probability make signal failures in their attempts to fight against facts which have so often been pointed out to them.

EARLY PATENTS RELATING TO NEEDLES.

Historical details are wanting as to the invention and progress of the needle manufacture. Needles made of bone seem to have been in use from the earliest stages of prehistoric man. The high estimation in which needlework was held by the Hebrews and their contemporaries shows that needles must have been in every-day use at that time. In our country their manufacture was introduced about the middle of the sixteenth century; the secret of their production seems, however, to have died with the foreigner who introduced the industry into this kingdom. In the days of Queen Elizabeth, a German reintroduced the manufacture, and about 1650 needle manufactories were established at Long Credon, near Redditch, the latter district remaining even to this day the head-quarters of the English needle manufacture.

This particular industry never owed much to patents, and there are consequently comparatively few entries relating to the subject. The first that we come across was granted in 1755 to C. F. Weisenthal, a merchant carrying on business in London, for a double-pointed needle, the eye being in the centre, thus avoiding the necessity of turning the needle in doing embroidery work. This could hardly have been a new idea even then, and it has been patented about half a dozen times since.

Weisenthal's patent was, however, only for a new form of needle, without any reference to the mode of manufacture. The earliest grant of the latter kind is dated 1775, and is in the name of William Sheward, of Redditch, "worsted needle manufacturer," for "needles with eyes upon a new and particular construction." The needles being eyed and guttered, the inventor brings them in contact with "a small steel tool, drill, or rimer," carried in a lathe. The tool is kept revolving, and "the eyes of the needles are then put upon or to the point of the said drill or rimer, in such manner and form, and continue there so long till the said tool, drill or rimer hath worked in and about the eye of the needle, so as to take off and smooth all the edges from the eyes of such needles." Here we have the first attempt at making "drill-eyed" needles, an expression which does not, however, denote that the eyes are actually drilled out of the solid. It was stated that a Studley needle-maker introduced this method in 1793; but, as might have been expected, it failed, on account of the expense. Sheward seems to have subsequently removed to Birmingham, for in 1789 he had a patent, in which he is described as of that town, for a new and improved method of finishing the eye of a needle "in a way superior to any yet invented." His invention consisted in arranging upon a revolving shaft a number of steel discs, alternately roughed and smoothed, the former being larger in diameter than the latter. The needles being applied to the rough discs were rendered free from the "square edges that punches always leave in the eye of a needle, and the small wheels will burnish or polish the cheeks and full parts about the heads and turn them off complete." The only information we have been able to gather respecting Sheward is that he at one time occupied a farm at Beoley, near Redditch, and that he was also the inventor of a particular form of horizontal windmill, the sails of which were inside a hollow drum. This was an idea which found particular favour during the last century.

The next patent to be noticed is that granted in 1795 to William Bell, of Walsall, for making "all sorts of needles, bodkins, knitting-pins, fish-hooks, netting-needles, mesh-pins, and sail-needles." The method consisted in casting the articles in sand moulds, the metal used being partly refined by melting with charcoal-dust and lime or common salt, the mixture being frequently stirred with an iron rod. The inventor states that articles cast in this manner are capable of being tempered and hardened or softened in the usual way. However suitable the process may have been to the production of bodkins and such-like articles, it would be totally inapplicable in the case of the finer kinds of needles.

In 1812, John Scambler, a needle-maker, of Birmingham, introduced the "Patent Golden Needles," the chief peculiarity of which was that the eyes were gilt by being dipped in a solution of gold in aqua regia, a process which at best would give but a very unsatisfactory result. The needle had also a long point, the taper part commencing at about two-thirds the distance from the extremity. The eyes were square or round, instead of oval, and the needles were hardened by immersing in oil and water.

It is often asserted that the needle-pointing machine is of German invention, but that is an entire mistake. The invention is English, and the error may have arisen from the fact that needle-pointing machinery was first used in a German manufactory, the unreasoning opposition of the workmen preventing its introduction here for many years. Pointing by hand is, however, now almost entirely obsolete at Redditch, foreign competition having compelled manufacturers to adopt the machine. The needle-pointing machine is much older than is generally supposed, the original patent having been granted in 1833—nearly half a century ago—to Daniel Ledsam and William Jones, of Birmingham. The machine in question not only grinds the points of needles, but it cuts off the wire, the lengths being sufficient for two needles. The end of the wire, which is coiled on a drum, is passed through a set of straightening pegs, and then seized by a pair of pliers, which draw off a determinable length of wire from the coil. The amount thus drawn off at each pull of the pliers is governed by a crank and slotted arm, the bearings of which may be altered according to the "throw" required. The wire is then severed by means of a sliding cutter, and the part cut off held in a tube. Adjacent to the end of the tube there is a wheel with grooves in the periphery, each capable of holding a single needle. When a fresh length of wire is cut it pushes that previously severed, and which has been described as remaining in the guide tube, on to the groove in the wheel, the face of which is not broad enough to take the whole length of the needle, so that the ends overhang. A bar, bent to the curve of the wheel, keeps the needles from falling out of the grooves as the wheel revolves, and also serves to impart a rotatory movement to each needle by the friction between the wheel and bar, the friction being increased by covering both with wash-leather. In this position they are presented by the continued revolution of the wheel to the grindstone, which is hollowed out to correspond to the curvature of the former. A projecting guard-plate gently depresses the needles to bring the points in more certain contact with the stone. The grindstones, which are driven independently, and have special modes of adjustment, are two in number, one on either side of the wheel, so that both ends of the wire are sharpened. When the operation is complete the eyes are punched out, and the needles are finished in the usual way. We are not aware whether Ledsam and Jones's machine was ever used, but its main features have been reproduced in that now generally employed, which is, however, not entirely self-acting, the

rotation of the wires being imparted by the fingers of the grinder.

A most important invention was patented in 1839 by Abel Morrall, a Studley needle-maker, for burnishing the eyes of needles by threading them upon a roughened steel wire stretched in a frame and caused to revolve, or to move backwards and forwards. The needles are thus made to vibrate upon the wire in every direction, and the eyes effectually cleared from all roughness. This very valuable patent was shortly afterwards purchased by Messrs. Bartleet, of Redditch, and the use of "string or cord," which the inventor thought might also serve as well as wire, was disclaimed by them in 1841. An attempt was made by a league of twelve rival manufacturers to set the patent aside by a *scire facias*, but the proceedings were unsuccessful, and the patent was held to be valid. The effect of the introduction by Messrs. Bartleet of the oval-eyed needles perfected by this machine has doubtless been to cause the eyes of needles generally to be made larger than they formerly were, to the great convenience of the majority of persons who use them. Up to that time there were no means of making the eyes perfectly smooth, except in the case of round eyed needles, and even they were benefited by the use of the burnishing machine. But it is still a question if any needle is so good in use as one with a perfect round eye, carefully drilled, and then burnished by the best method known in the trade.

In 1841, Luke Herbert, a consulting engineer and patent agent, then residing in Birmingham, took out a patent for a machine which was a palpable imitation of Morrall's. Herbert proposed to string the needles on a roughed wire, as in the former machine, but the needles were to be firmly held in a clamp whilst the wire was drawn backwards and forwards through the eyes. The plan failed in practice, as might have been foretold, for it did not produce the right kind of action upon the eye.—*Furniture Gazette.*

DEATH OF MR. MYRON PERRY.

This gentleman, who died on the 3rd of January last, was well known and respected amongst the American sewing machine trade. We append the following account of this gentleman's career and death, which has appeared in the *New York Sewing Machine News*:—

A few mornings after Mr. Perry's death, which occurred on January 3rd, 1881, a clerk in one of our large stores was found in tears by his employer. Inquiring the cause, the answer was, "I have lost my best friend: Myron Perry is dead!" The general sentiment could not be better expressed than in this answer. To many men, in many lands, the tidings of his decease will be sad.

Mr. Perry came of a good old Connecticut stock, being descended in a direct line from one of three brothers, who came from England about the year 1635. One settled in Rhode Island, another in Fairfield county, and the third, his ancestor, in Windham county, Conn. His mother was a Childs, daughter of Elias Childs, a distinguished man at the beginning of the century, as proprietor of a large estate at Woodstock, Conn., where he carried on extensive business of various kinds. In that town the subject of this sketch was born April 24th, 1828.

His boyhood and youth were passed in that section, where he is still remembered with respectful interest by those who grew up with him, and watched the traits of disposition that made him what he was. His business life began in a store in Manchester when he was only thirteen years of age. He afterwards acted as clerk and bookkeeper in several stores and manufactories at Plymouth, Watertown, and Waterbury. In the year 1856 he became cashier of the Wheeler and Wilson Manufacturing Co., or rather of Nathaniel Wheeler, Alanson Warren, Geo. T. Woodruff, and Allen B. Wilson, original founders of that company, in whose service he died. In that position of responsibility and trust, he necessarily came in contact with many persons of all degrees in life—employers, agents, directors, stockholders, inventors, customers, manufacturers, representatives of rival and hostile interests; and from all that vast number, what man or woman ever named him but to praise?

To some, he was the faithful servant; to others, the genial, generous friend; to some, the warning finger and the helping hand. To others, a staff in trouble, and a cup bearer of comfort, when comfort was most needed. To all, he was the honest, social and kindly man—the one to whom each went for a favour, sure that he would not refuse, unless duty sternly compelled; and even then, so charitable and sympathetic was his nature, the chances were that he might be generous before he was just.

No man was ever followed to his rest by a more sincere body of mourners. Relatives there were but few. His elder brother, for many years the superintendent of the Wheeler and Wilson manufactory, and his son, also in the same employ, represented about all of his immediate kin; his wife, whom all remember for many graces of person and heart, having died some five years since.

But there were brothers there, though not of his name, and sisters too; and more than one felt towards and looked up to him as to a father. There were companions who had shared with him the chances of early ventures, who had braved defeat and tasted success with him—managers of great enterprises in which he participated, his fellow worshippers for twenty years, and the young whom he had taught in the rudiments of their calling, and recommended and placed. To each came a private and particular, perhaps to some a secret, reason to remember him, and to feel a personal loss, not likely ever to be made good. But of the many incidents of which mention was made to his credit and in his praise, perhaps none would be more pleasing to him than the reference to his fondness for dumb animals, which was one of the marked traits in his character, as exemplified in his death.

The qualities for which he was appreciated are the ones by which he will be best remembered. First should he mentioned his unswerving fidelity, at all times and in all places, to whatever cause he espoused—whether in the more important concerns of business, the labour of kindness to friendship given, the deed of charity undertaken for the humble and lowly, or the disinterested tribute of attention and care to some suffering animal. He knew neither weariness nor discouragement, until the task was ended which he had set himself to do. Disinterestedness was as natural as the breath he drew. His quick sympathy enlisted him in every object that appealed to his high sense of justice, and called for a display of that moral courage which is the best test of nobility in a man. He never shrank from the expression of a conviction because it was not popular; he never dallied with a folly because its victims stood in high places or wielded the influences of power among the rich and prosperous.

Eminently was he a man of affairs, burdened beyond his strength with engrossing duties; and yet he had an ear ever open to any call, coming in the name of those who had claim to his thought and care. He will be misssed as those are missed whose place is not to be made good. His memory will be cherished as ever lives the thought of those whom to have known was an honour and pleasure. An honour, because, if a man is to be judged by the company he keeps, no more manly and honourable, straightforward and brave associate could be found. A pleasure, because to his lips sarcasm was a stranger. To his heart, malice, envy and hate were things unknown; while the gentler graces and amenities of life found there a home so natural and cultured, so constant, that they shed about him the perpetual aroma of a Christian spirit, so utterly without pretence that it unconsciously attracted and endeared.

In the death of Myron Perry, the Wheeler and Wilson Company lose one of its most faithful co-workers, and the sewing machine fraternity one of its brightest ornaments. A man who was loved and respected by all who knew him. A genial soul, but positive in his business relations, and a man who knew how to treat those employed under him—as well as his equals. His memory will long be revered and cherished by the Wheeler and Wilson Company, and their employes. *Requiscat in pace.*

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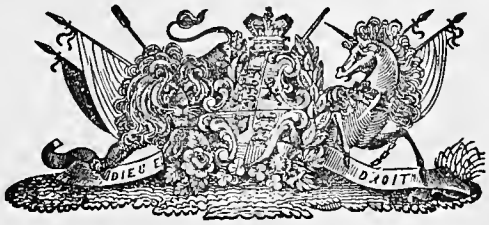

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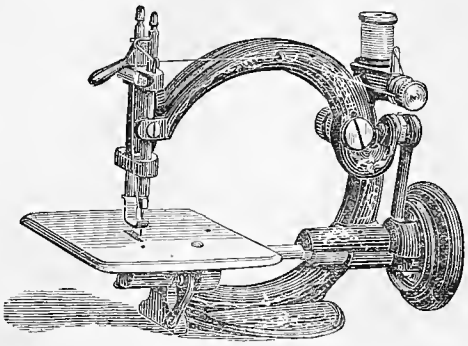

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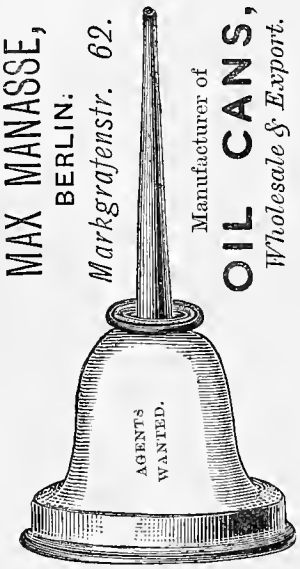

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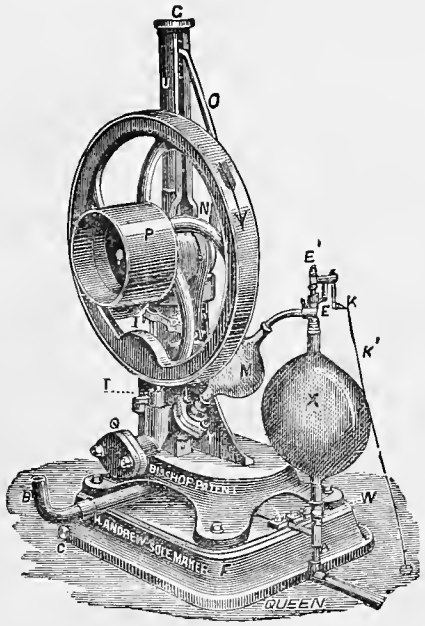

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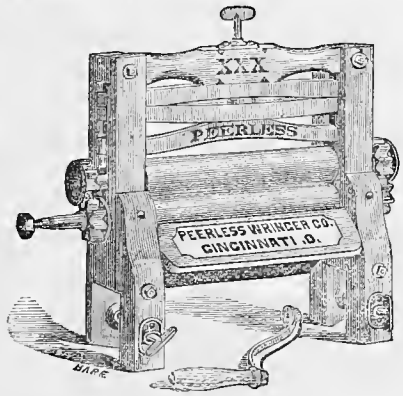

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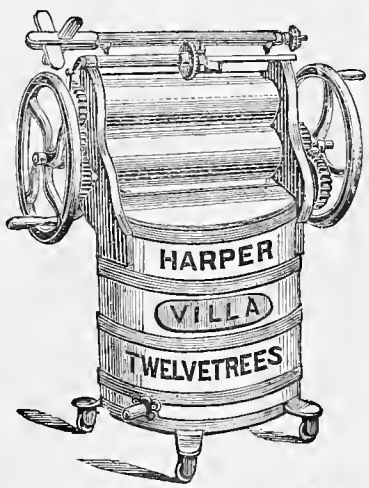

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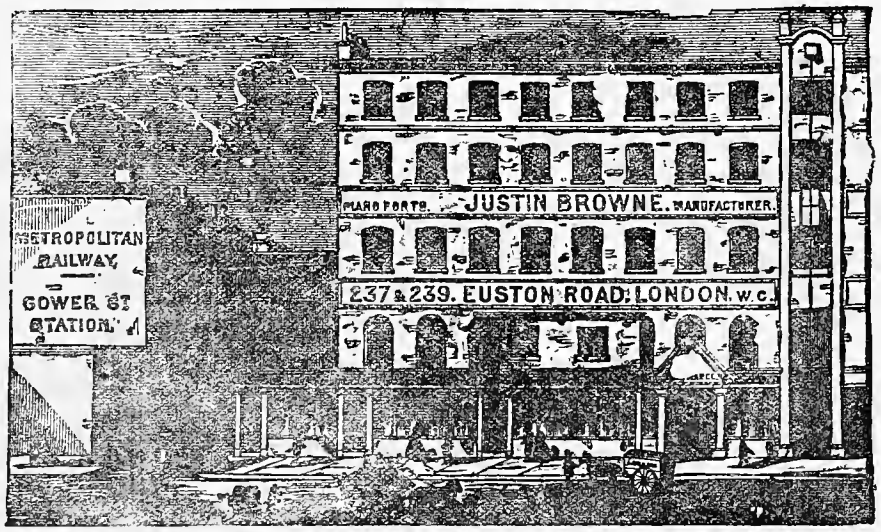

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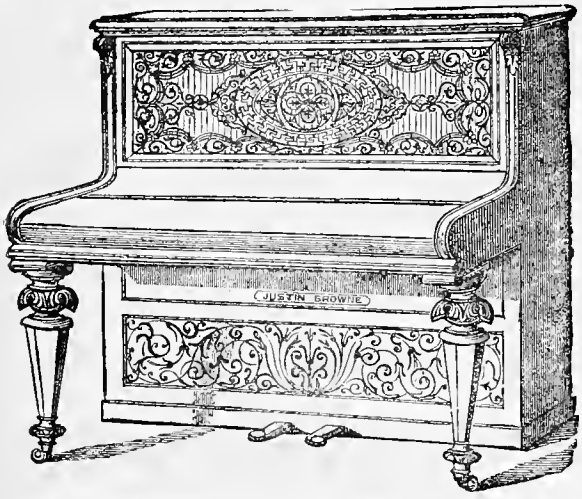

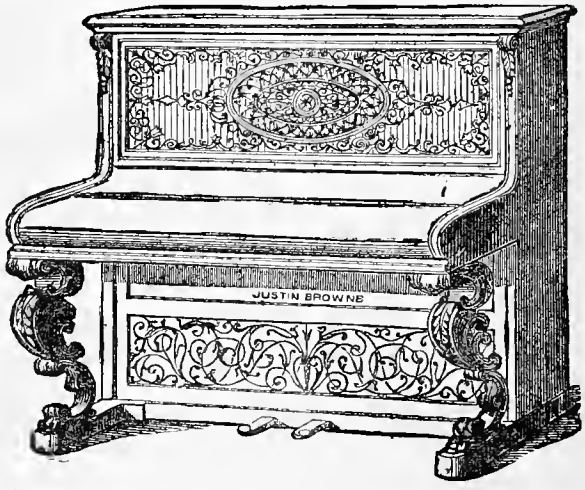

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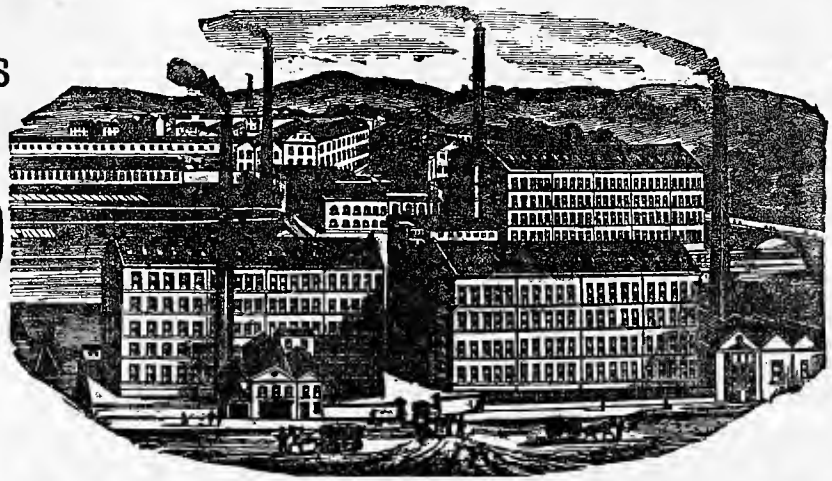

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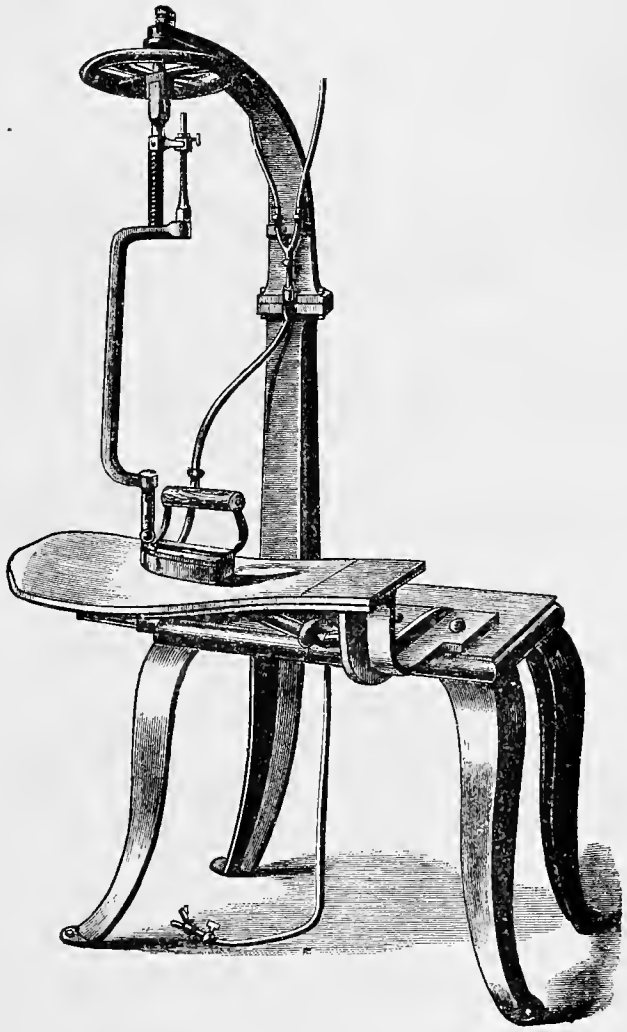

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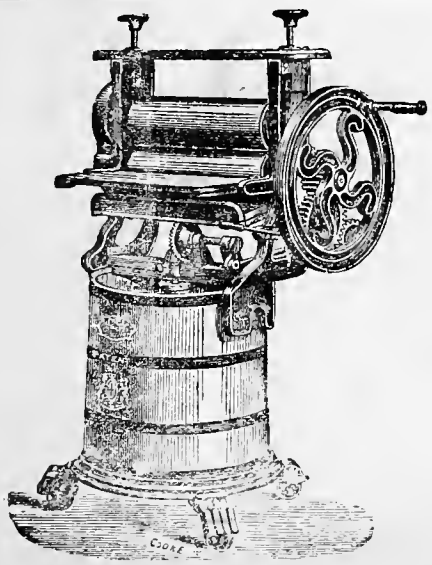

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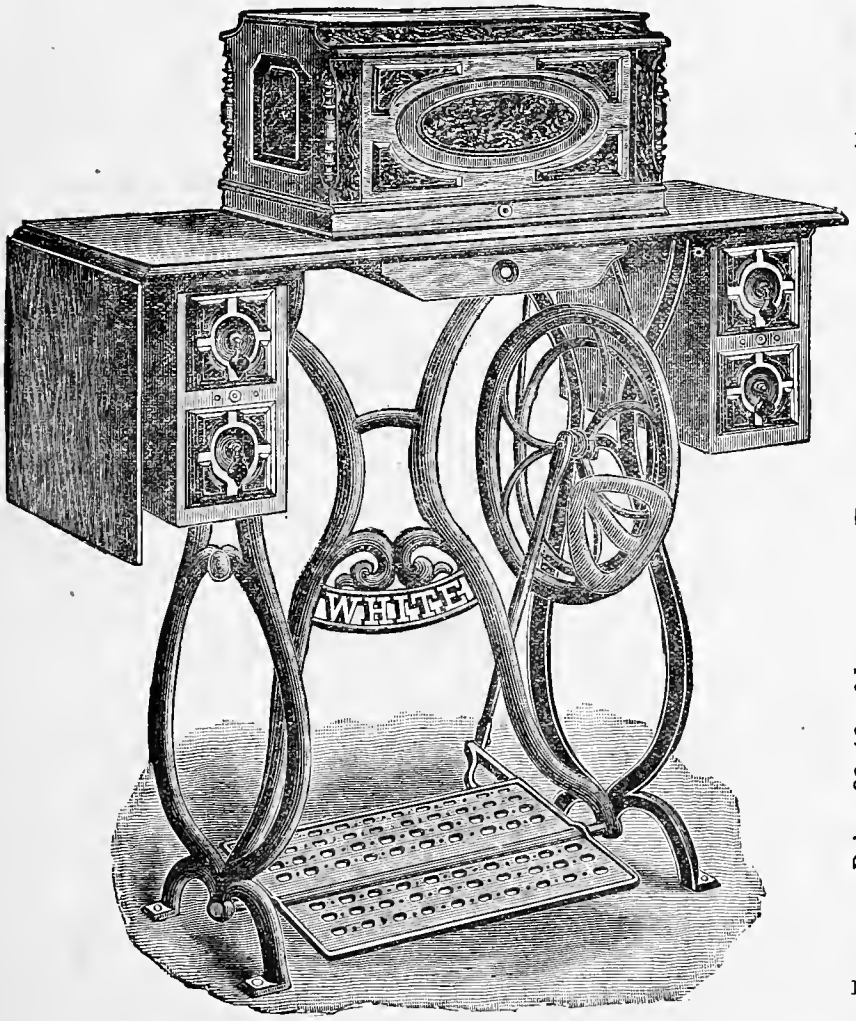

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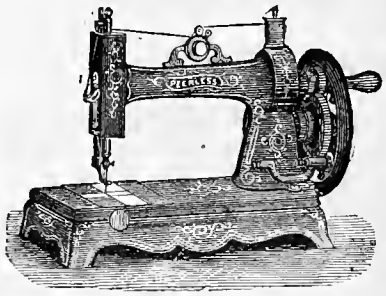

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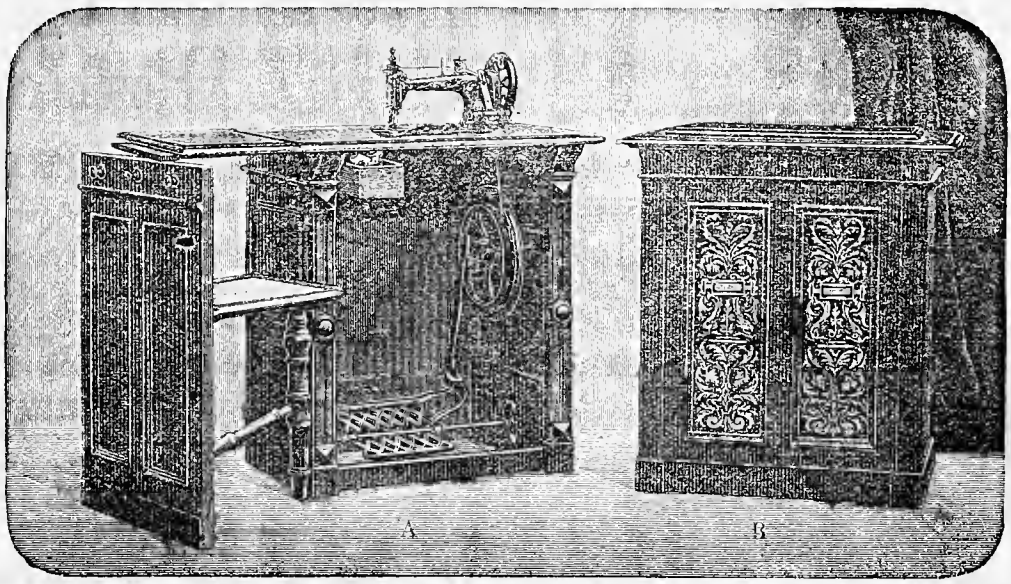
Oak waxed or walnut polished, plain or with elegant Intarsia Ornamentation, or with fine Oil Paintings on Gold Ground.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hard painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE.

Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom.

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MANUFACTURED BY

The Howe Machine Company,

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EXPRESSLY FOR BOOT & SHOE MAKERS,

FOR

SADDLE AND HARNESS MAKERS,

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Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

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Price Lists and Samples of Work FREE on application.

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WALTER EVANS & CO.,

BOAR'S-HEAD COTTON MANUFACTORY, DERBY.

EVANS'S SUPERIOR SIX CORD SEWING COTTON, ON SPOOLS SPECIALLY ADAPTED

ALSO

SUPERIOR SIX-CORD CROCHET COTTON, on Spools, in Skeins, and in Balls, for Sewing, Knitting, and Crochet, which is especially recommended for all "first-class Crochet Work;" also for Guipure d'Art and Point Lace.
MALTESE THREAD, in Balls, White, Black, and Colors
TATTING COTTON, on Spools.
PATENT GLACE THREAD, in White, Black, and Colors, on Spools and Cards.
TWO AND THREE CORD SEWINGS, on Spools, soft finish.
SEWINGS, in Balls.
EMBROIDERING, Knitting, Mending, Cotton Cords, and Small Cords.

1862.	1867.	1873.	1878.
London Exhibition Prize Medal, awarded "for very strong & most superior thread."	Paris Universal Exhibition Gold Medal.	Vienna First Class Medal "for Progress."	Paris Universal Exhibition, Silver Medal.

HOLROYD'S NEW PATENT KILTING MACHINE

Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

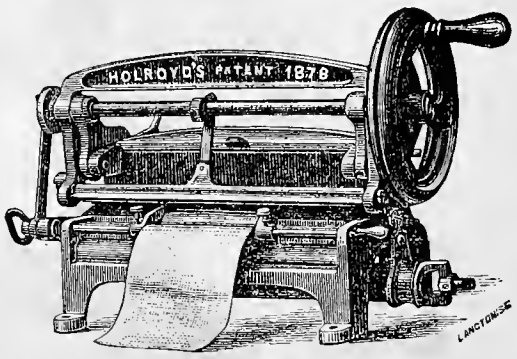
THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

It will make any kind of kilt desired, from the narrowest to an inch wide, and any depth up to ten inches, and can be altered to different styles and widths immediately, and in a most simple manner.

It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



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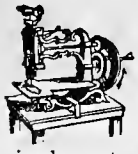
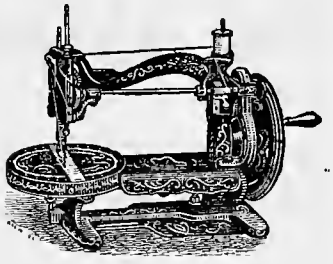


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



ALSO

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder.

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

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UNRIVALLED SPLENDID
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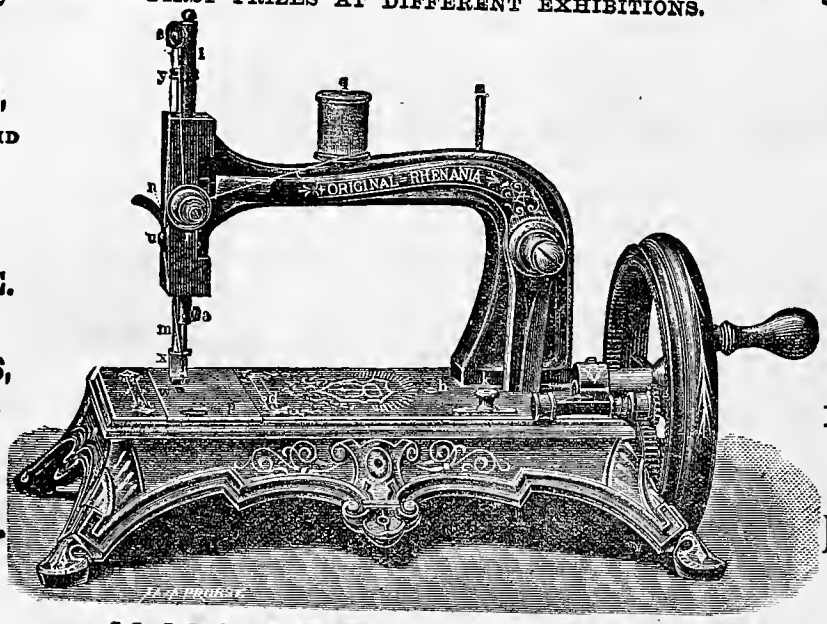
SEWING
MACHINE.



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No. 19.
Sewing
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FOR TRADE.

ORIGINAL FIDELITAS,
Best Family
SEWING
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ORIGINAL BADENIA,
HEAVY STRONG
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ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,
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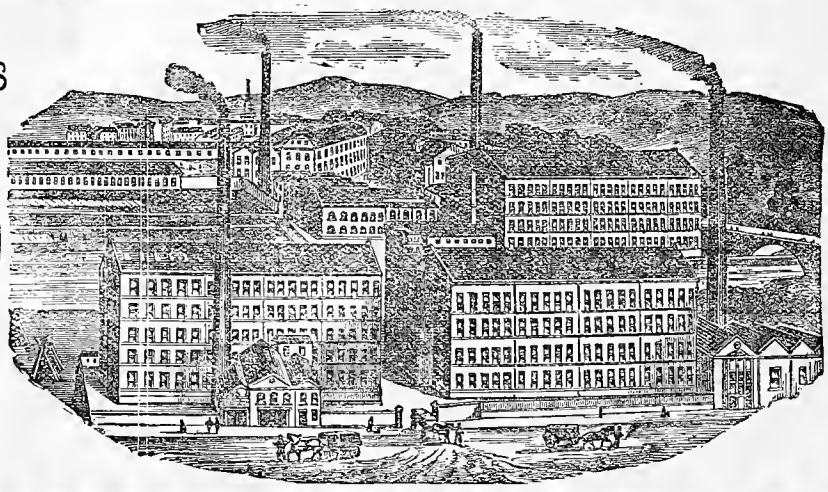

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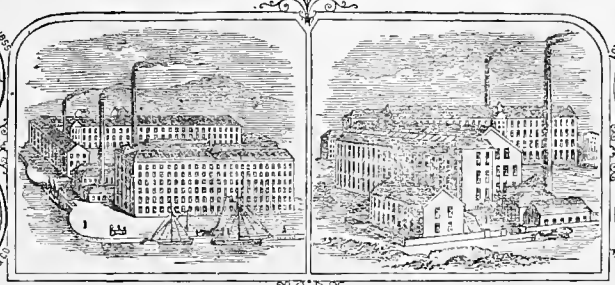

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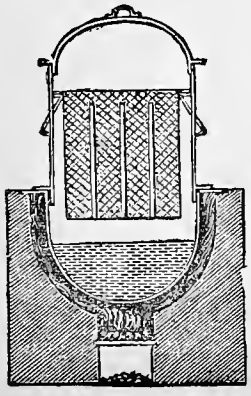

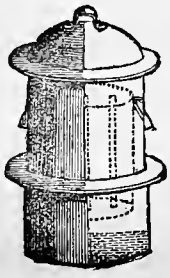

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SECURED BY ROYAL LETTERS PATENT.

The cheapest and most economical Washer introduced, avoiding all the wear of linen caused by present modes. Things to be washed only require to be soaked, soaped, steamed, and hand-rubbed once,

Steamed 20 Minutes over Copper.

No use of chemicals, soda, dollies, maids, wash-boards; no turning or pushing machine handles; only one-half the soap used. See opinion of JESSE OVERTON, Springfield Laundry, Leamington, in *Queen* of 17th of July, page 68:—"The steam softens, and the condensed water carries away grease and stickiness, just as a belt of perspiration does off a dirty forehead."

COLOUR OF WASHING DECIDEDLY IMPROVED.

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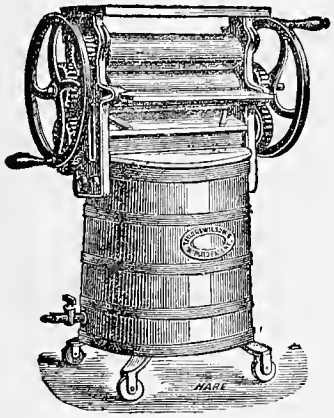

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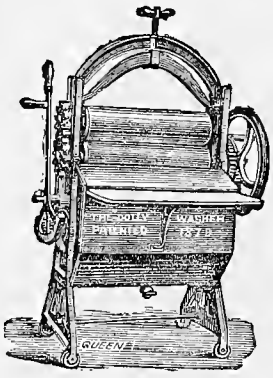

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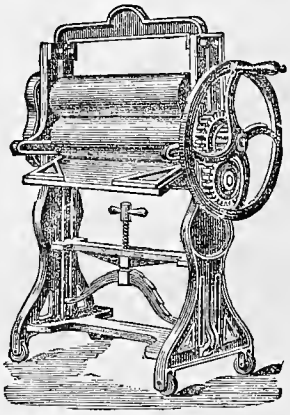

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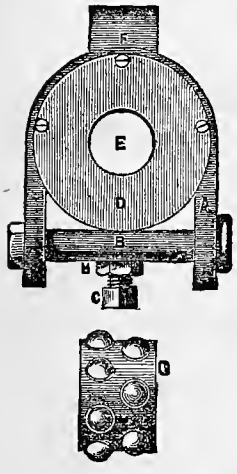

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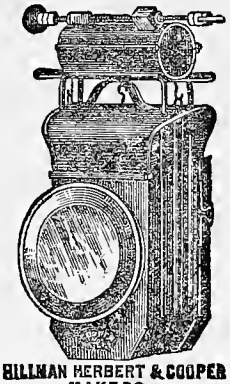

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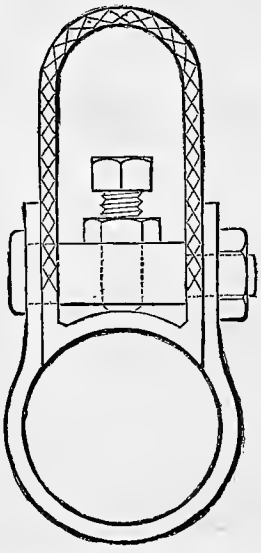

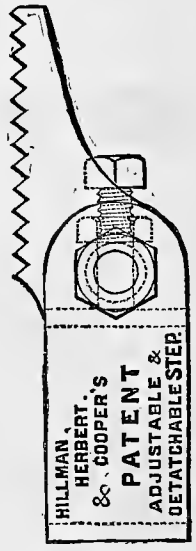

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Yours truly, H. Revell Reynolds, jun., Dark Blue B.C., and L.B.C.
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All Communications to be addressed to the Works, COVENTRY.

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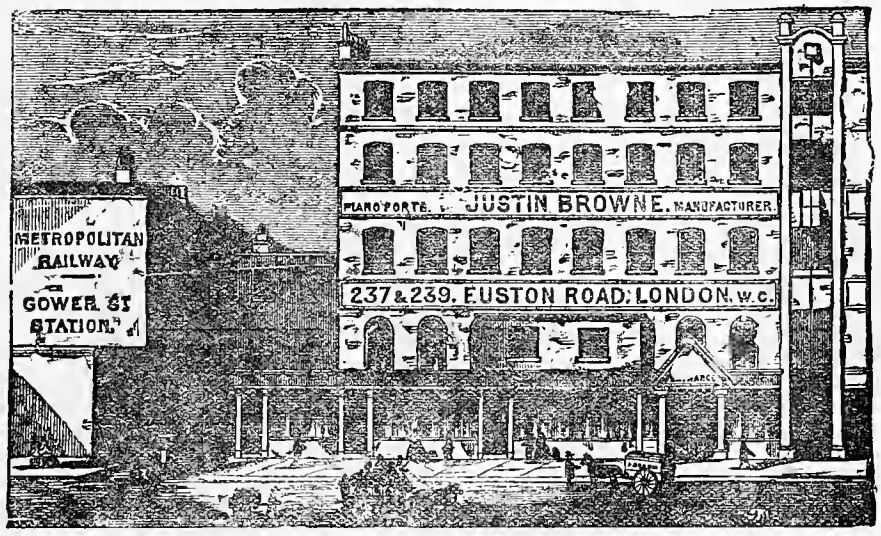

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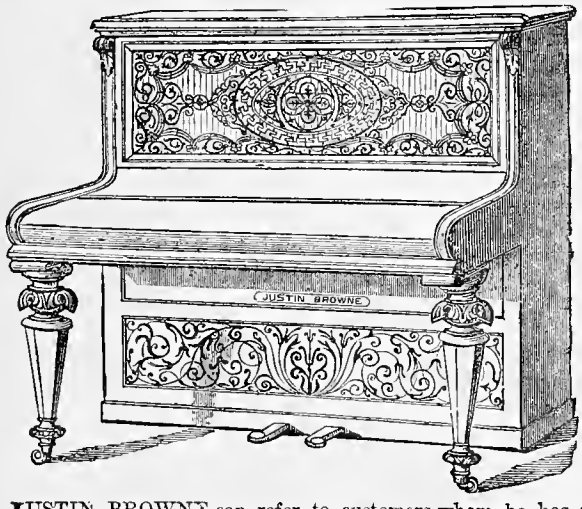

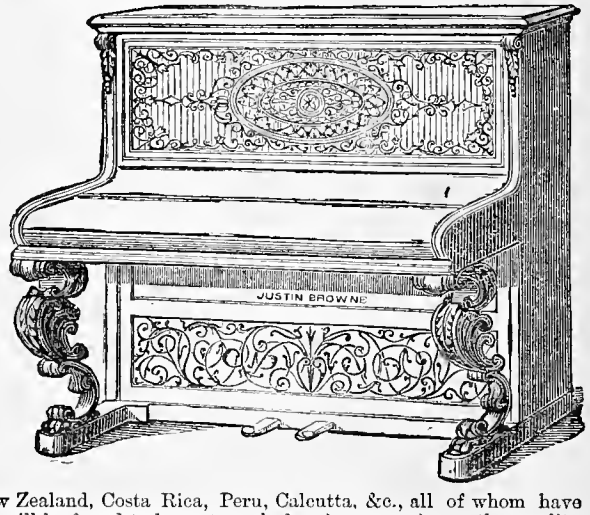

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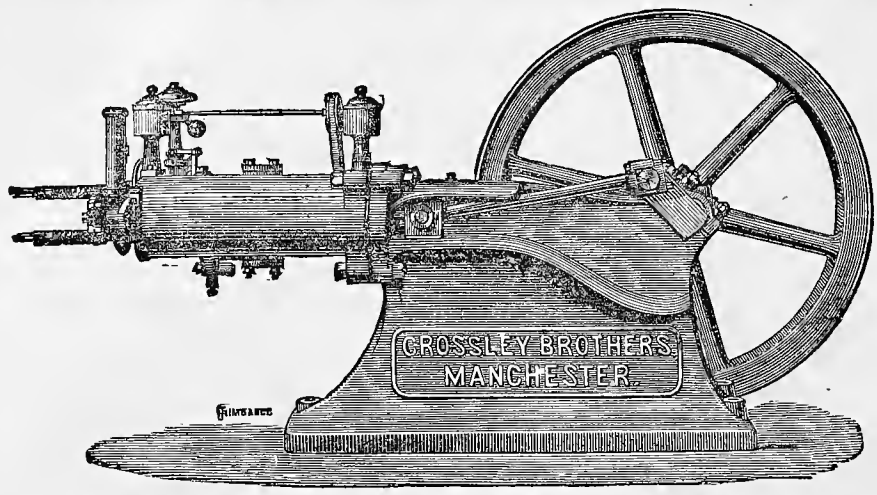

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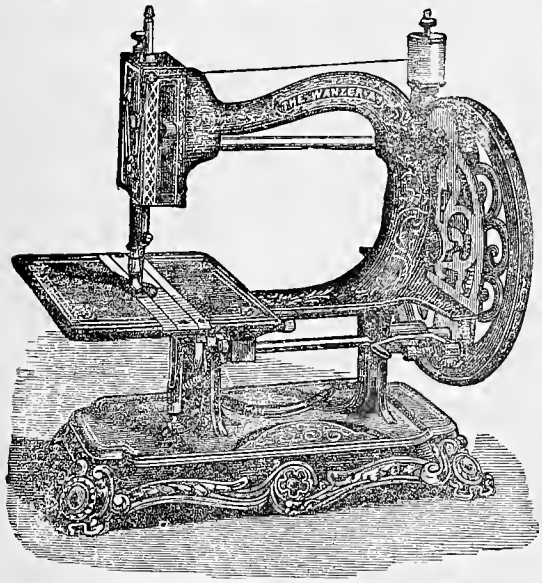

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It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

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LIMITED,

Chief Office—4, GREAT PORTLAND ST., OXFORD CIRCUS, LONDON, W.

DOMESTIC LABOUR-SAVING MACHINERY EXHIBITION,

Held at the Agricultural Hall, London, March 7th to 26th, 1881.

BEYOND all doubt this Exhibition has proved a success. It has been well attended by visitors of all classes, my lord and my lady arriving in their carriage and pair have visited the Exhibition in the afternoons; while in the evening the working-classes have thronged there in great numbers to learn domestic economy and household thrift. The spacious Agricultural Hall was well filled with stalls, and presented a very attractive appearance. The centre piece was the exhibits of

MR. GEORGE KENT, High Holborn, W.C.

This was a square substantial erection of knife-cleaners and other domestic articles, such as Kent's patent ventilated ice safes, ventilated refrigerators, hotel safes, churns, jelly strainers, mincing machines, bread cutters, potato mashers and bread graters, marmalade cutters, whisks and mixing machines, egg beaters and egg mixers, apple parers, vegetable cutters, portable filters, bread makers, cinder sifter and dust bins, carpet sweepers, washing machines, &c., &c. Their combined cinder sifter and dust bin separates the ashes from the cinders without the least dust or dirt escaping, while the cinders are actually deposited in a coal scuttle. We noticed their family ice safe; it occupies small space, and the top of it can be used as a sideboard. Through the glass door of one of these safes we saw, in a perfect state of preservation, a shoulder of mutton, and various kinds of vegetables, which we were informed had been there nine months. We must compliment Mr. G. Kent on the admirable arrangement of his stand, which was seen to equal advantage from any point of view, and high over which was conspicuously placed the well-known word "Kent." Having thus said a few words about the centre-piece, we shall proceed to describe the exhibits in the order of trades rather than that in which the visitor found them in the Hall. Amongst the exhibitors of sewing machines were

THE SINGER MANUFACTURING COMPANY.

Foster Lane, Cheapside, E.C.

This firm, who occupied a good position near the Islington entrance, made one of the most interesting exhibits in the show. We first noticed their button-hole machine. In working this machine the garment is held firmly and securely in its place by means of an improved steel clamp fitted with expanding jaws, operated on by means of a steel eccentric. The hole is cut by an improved contrivance in form of a hammer, having the knife or cutter fixed in the head, and fitted with a limb passing through the bed of the machine, and connecting, by means of a hook, to a horizontal shaft beneath the table, the shaft being furnished with a cam for raising the cutting brass to meet the knife on its down stroke. The shaft is also furnished with two iron handles, firmly fixed to it; by griping the handles firmly and raising them four inches, the hammer descends with great force, and perforates the garment. The looper, or under needle, is also very much improved, it being jointed to the lever so as to enable the operator to thread up the more quickly and readily. This machine was admired by hundreds of interested visitors, and pronounced by them to be a masterpiece of mechanical ingenuity and skill in point of finish, &c.

They also exhibited the new arm machine, suitable for the leather trade, more especially for the making and repairing of boots and shoes, Gladstone bags, &c. This machine is another specimen of mechanical ingenuity and skill in its highest perfection viz., simplicity of construction, evenly balanced working parts, combined with elegance and durability. The shuttle spool is round, and about the size of a sixpence. The shuttle is constructed on the self-acting principle, the tension being regulated by means of a small screw on the upper side or surface, thereby enabling the operator to adjust it without taking it out of the machine. It has a long arm with a very small end, the needle hole being planted very near the edge. The needle plate is held firmly in its place by means of a spring pin or bolt, operated on by the thumb of the worker. Another important feature is the needle bar action. The top, or needle bar, lever is operated on by means of a cam, firmly fixed to the horizontal shaft, and supported between two check plates just in front of the cam; consequently the action is uniform throughout, having no stroke or loose play to mar the beauty of the stitch, which is simply perfection. The cam is also furnished with two speed grooves—fast and slow. The needle bar is extra stout and well supported. The shuttle lever is operated on by means of a cam and rock lever fitted inside the arm of the machine. The machine works well, no matter in what direction the goods are made to travel, either to, from, to the right or left of the operator.

Their oscillating spool machine was also exhibited. It is the simplest and lightest running machine in the market. The general action throughout is oscillating; the freedom and ease in working of this machine is truly remarkable, 1,500 stitches per minute can be readily given out without undue exertion on the part of the operator. The adjustment of thread, both top and bottom, is on the self-threading principle, thereby effecting a great saving in time. There are two sizes of this machine, family and medium, the former for the manufacture of light goods, the medium, fitted with roll-presser, for leather; both sizes have *special positive takes up*, and form a pretty pearl-like stitch.

Another machine exhibited was the Singer fancy or embroidery stitch machine, which is a very remarkable novelty. This machine is designed to form eight different stitches by simply removing a cam and replacing it by another; it is very useful in ornamenting children's goods, smoking caps, &c., &c., and by a judicious blending of coloured silk a very pretty and novel effect may be produced. This machine had a host of admirers.

Their small arm machine, family size, which they showed, is designed to supply shirt, cap, underwear manufacturers and others, is simple in construction, strong in its various parts, and is what is known as a top feed machine.

Amongst their exhibits was their new medium braiding machine. The special feature in this machine is a clutch action, fitted with two levers beneath the table, operated on by the knees of the worker; a slight pressure to the left stops the feed with the needle in the goods, thereby enabling the operator to turn sharp angles without removing her hands from the work. This machine is designed for the use of mantle and juvenile suit manufacturers. A machine for producing an imitation cord on silk, cloth, felt, &c., was exhibited for the

use of manufacturers of mantles, costumes, skirts, &c. This machine has been in great demand, especially in London, in the above branches, and has been highly successful.

We cannot speak too highly of their special patented self-acting spool winder. This very ingenious device is simply perfection, the cotton passing from the spool through a self-threading guide or eyelet, the bobbin put in its place, and the cotton secured with two or three turns round a thumb. The machine is then started, and the cotton is evenly laid on by means of a travelling tension, the coils being kept in uniform position by means of a presser plate; when the spool contains sufficient cotton the winder throws itself out of gear and stops. These spools are more evenly wound than reels of cotton, and contain 60 yards of No. 50 cotton. The last thing we noticed was their self-threading shuttle. In this patented improvement the holes drilled in former shuttles are entirely done away with. It is fitted on the inner side with a spring or guide, and the shuttle so shaped as to enable the operator to lay the cotton in its place instantly, even in the darkest of work rooms.

Also on their stand was a frilling and pleating attachment. This is worked by means of a ratchet and spring pawl operating on a cam, and taking its action from the upper part of the needle-bar, and easily fixed in position by the lower face-plate screw, it is made adjustable so as to produce pleating of various widths; it works well, and can be highly recommended.

THE HOWE SEWING MACHINE COMPANY, 46 and 48, Queen Victoria-street.

First amongst their exhibits we noticed the Letter "A," for family use, and a simi ar machine, pearled and silver plated. They also exhibited their Letter "B" machine, with step or four motion feed, for mantle and light tailoring work; the same with wheel feed for boot making and general leather work; their Letter "C," with step feed, which is adapted for heavy cloth, but which will work on the finest materials; and the same machine, with wheel feed, for the manufacture of men's boots, and for sewing the heavier kinds of leather. We also saw the Letter "D," for heavy work, which can be used either as an arm or platform machine, and the same with wax thread cylinder for leather work—harness and saddler's use. They also exhibited their Letter "E" universal feed and arm machine, for making and repairing boots; their Letter "F," light tailoring work; their Letter "G," new single thread hand machine; and their Letter "H" hand shuttle machine, which equals any for beauty and perfection of stitch. Bicycles, kilting machines, and wringing machines were among their exhibits. Some excellent specimens of work done on these machines were also exhibited.

THE WHEELER AND WILSON MANUFACTURING CO., 21, Queen Victoria-street, E.C.

A very creditable exhibit was made by this firm. They exhibited a number of sewing machines for family, leather, cloth, and ornamental flowering purposes. Some splendid specimens of ornamental fancy sketching were to be seen at their stall, which attracted much attention from the "fair sex." Also to be seen at their stall was a set of steam power attachment for sewing machines.

THE WANZER MACHINE CO. (LIMITED), 4, Great Portland-street, W.

A number of improved machines were exhibited by this firm, which are fitted on many kinds of stands and tables. That which attracted most attention on their stand was the Wanzer patent kilter and baster. This machine is noiseless in its action. The Wanzer 6-inch plaiter for families or dressmakers, and the Fricker patent for shirt and trimming manufacturers, were alsoexhibited. The *ensemble* of this stall was very pretty and attractive.

MESSRS. RENNICK, KEMSLEY, AND CO., 4, Finsbury-circus, E.C.

The light running Stanard sewing machine was exhibited by this firm. This machine has a device whereby the bobbin can be wound without running the machine, which saves unnecessary wear of the machine, and the trouble of unthreading and removing work and attachments while the bobbin is being filled, a self-setting needle which cannot be set wrong, an automatic tension which, when once properly regulated, will rarely need to be changed, and as a general rule, the whole range of family sewing can be done without any change of tension whatever; this result is obtained by nicely adjusted springs that will accommodate themselves to the size of the thread used, plenty of room underneath the arm, a dial for regulating the length of stitch, which enables the operator to readily ascertain the length of stitch without testing previous to commencing work, a spring tension shuttle, holding a bobbin that carries a large amount of thread, perfect adjustability in all parts, so that "lost motion" from long usage can be easily taken up. The feed has great power, and never fails to perform its duty, will feed the lightest and heaviest goods with equal precision, and will cross seams and hard places without changing length of stitch or missing stitches. The self-acting "take-up" permits the operator to use with equal facility the finest to the coarsest thread manufactured, including linen or silk thread, without chafing or breaking. This machine is adapted for hemming, felling, binding, cording, braiding, seaming, quilting, tucking, darning, fringing, ruffling, gathering, hem-stitching, &c., &c., from the lightest muslins to the heaviest cloths. It is remarkably simple, easy running (almost noiseless), most elegantly ornamented; all the parts are made of the very best material, and case hardened. It is adapted for the use of tailors, dressmakers, seamstresses, manufacturers of clothing, shirts, skirts, corsets, ladies' boots, umbrellas, &c. They also exhibited the "Home Companion" and the "Home" machine.

THE WILCOX AND GIBBS SEWING MACHINE CO., 150, Cheapside, E.C.

This firm exhibited their hand machines and treadle machines, old style and "automatic." They also showed their silent machines, with self-acting tension, on walnut table, with cover to lock complete; and the same machine with extra leaf to table and side drawers. Three straw-hat machines were shown on their stand; also the shirring or running machine, which attracted much attention. They also exhibited a Cornely embroidery machine and a Cornely cording machine.

MESSRS. S. DAVIS AND CO., 15, Blackman-street, S.E.

On this stall was to be found a variety of sewing, washing, wringing, mangling, and knife-cleaning machines; also bicycles, tricycles, perambulators, and Baker's patent box mangles. Thus it will be seen Messrs. Davis are moving with the times, and adding all kinds of domestic inventions to their original sewing machine business.

MESSRS. NEWTON, WILSON AND CO., 144, High Holborn, W.C.

The Wilson Stylus, or Fountain Pencil Pen, which writes with ink, but has the freedom of a lead pencil, was very largely sold and exhibited by this firm. On their stand was also the Horograph or clockwork pen, for producing facsimile copies of writing or drawing. This firm also exhibited the Princess of Wales' sewing machine with all its latest improvements, and several kinds of kilting and washing machines.

BRADBURY and CO., LIMITED, Oldham,

Exhibited the new "Wilson" oscillating shuttle sewing machine, as made solely by them for the European market, and patented 1878 and 1879. A marvellous combination of simplicity, rapidity and noiselessness, very strong and light running. Also Bradbury and Co.'s improved family and medium machines with patent shuttle and winder, double feed and superior finish. Bradbury and Co.'s world-renowned A 1 elastic machines, for repairing boots, &c., the "Shoemaker's friend." Bradbury and Co.'s Wellington and family S hand machines, with every improvement. Bradbury and Co.'s new patent Wellington kilting machine, kilts 10 in. wide, rotary action.

MESSRS. THOMAS and TAYLOR, Stockport.

Messrs. Thomas and Taylor, of Stockport, and 99, Fonthill-road, N., exhibited their steam laundry machinery, which will be of especial interest to those who are anxious to provide the facilities requisite for the washing in large establishments, such as hotels, hospitals, boarding schools and the like. And, in the first place, it must be explained that there is not the remotest risk to life or limb by the use of these steam power machines. The whole of the gearing is safely enclosed in a lock-up box, and is only accessible, therefore, to the person in charge, thus doing away with any cause whatever for fear from the inadvertence of children or inexperienced persons. Every householder, of whatever profession or trade, or whatever his position may be, can now be fitted up with perfect washing and wringing machines, without any alteration of premises. The machine, engine, and boiler are all self-contained, require no brick or stone work, and are so simple that setting the machine to work is as easy as lighting an ordinary boiler fire. Farmers and others, having already steam or horse power on their premises, can have this power transmitted into the laundry or dairy, to drive the washing machine or churn, in a perfectly simple form, and without any danger or unsightliness. This is an important consideration in these days of strikes and dear labour, as with the patent machine the whole of the washing, wringing, and mangling can be done in a few hours. The waste steam, where an engine is the driving power, is utilised in boiling the water and clothes, after passing through the cylinder, thus effecting a considerable saving of fuel.

MESSRS. WOLSTENCROFT and COMPANY, 93, High Holborn, W.C.

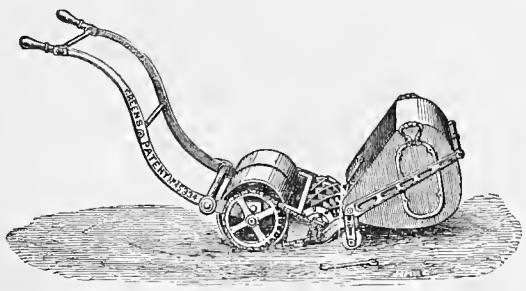
This firm exhibited their "Empire" washing machine. We particularly noticed this machine, which did its work in an expeditious and yet careful manner. They also showed the "Premier" washer, and a large selection of knife cleaners, sausage and mincing machines, egg-beaters, family weighing machines, and a general assortment of domestic machinery.

MESSRS. WOOD and PARKINSON, laundry engineers and machinists, Throstle-grove Mill, Stockport.

Messrs. Wood and Parkinson exhibited several kinds of washing, wringing, and mangling machines. We noticed most especially their patent float washing machine, which will certainly diminish the amount of wear that clothes are subject to whilst being washed.

MESSRS. THOMAS GREEN and SON, LIMITED, 54 and 55, Blackfriars-road, S.E.

This firm occupied a very large space for the exhibition of their "Silens Messor" lawn mower, Green's patent washing, wringing, and mangling machine, a patent sausage chopping machine, garden rollers, and other articles. The patent "Silens Messor" lawn mowers are among the best extant;



"SILENS MESSOR LAWN MOWER."

they have been submitted to numerous practical tests in public competition, and in all cases have carried off every prize that has been given. Their washing machines are efficient and expeditious; they save much time, labour, and material, and are easy to work. Their principal features are the revolving motion of the tub, and the vacuum "posser" or plunger, which acts without injuring any article. No. 5, Green's patent steam power sausage chopping machine, 26-in. block, new pattern, will chop 300lbs. in 60 minutes. This machine is specially designed for chopping large quantities of meat at one operation, is simple in its arrangements, strong in its construction, and occupies comparatively little space. The hand garden roller is made in two parts, bored and faced at the joints so that it revolves and turns freely, and rounded at the outer edges so as not to leave unsightly marks on the lawn or road.

THE HOUSEHOLD WASHING AND MANGLING MACHINE COMPANY, 5, New-street, Bishopgate-street, E.C.,

Exhibited washers and mangles made chiefly by Messrs. Summerscales and Sons, of Keighley.

HARPER TWELVETREES, 80, Finsbury-pavement, E.C.

The patent "Villa" washer with wringer was exhibited on this stand, for doing a fortnight's family wash in four hours, without rubbing or boiling; it is simple, strong, and durable;

occupies small ground space (24 inches square), has tremendous washing power, notwithstanding it can be worked and managed by a girl fourteen years old.

MR. J. CLEMENTS, 51, Great Russell-street, Bloomsbury, London, W.C.,

Exhibited Clements's patent self-acting reversing rotatory washing machine, working by steam; also Clements's patent centrifugal hdyro-extractor or wringing machine, and Jeakes's patent smokeless slow combustion grate (once feeding lasts all day).

MESSRS. JOHN M. BELL and CO., 494, Oxford-street, W.C.

This firm exhibited the well-known "Home" washer, the new patent "Dolly" washer, an improved laundry stove, and laundry requisites.

THE HIGHBURY SEWING MACHINE CO.

This firm exhibited a number of washing, sewing, and other machines; also bicycles and tricycles. They occupied a good space, and made a good show.

MESSRS. RYAN and RYAN, 9 and 11, Imperial Arcade, Ludgate-hill, London, E.C.,

Exhibited American washing machines, wringers and manglers, and domestic novelties.

MR. A. LYON, 32, Windmill-street, Finsbury, E.C.,

Exhibited a number of mincing machines, cucumber cutters, bread-cutting machines, &c.; also a machine for shelling green peas, which opens and shells from three to six pods at the same time.

MESSRS. SPONG and CO., 249, High Holborn, W.C.

This firm exhibited knife-cleaners, mincing, and sausage

machines; also a patent hair cutter for cutting your own children's hair, a fountain washing machine, a patent water tap filter, carpet sweeper, and other articles for domestic use, altogether making a very creditable and interesting display.

THE CYCLE COMPANY, 51, New Kent-road, S.E.,

Showed self-acting washers, reversible perambulators, and a curtain tightner called the "Simplex," which is a cheap and effective article for fastening muslin to window curtains, always keeping them perfectly straight without injury to tape or curtain.

MESSRS. NETTLEFOLD & SONS, 54, High Holborn, W.C.,

Showed the "Coventry lawn mower," "the Coventry Zephyr" bicycles and tricycles, horticultural tools, and other garden implements.

MESSRS. HUTCHINSON, 51, Fann-street, Aldersgate-street, E.C.

This firm exhibited their patent fork cleaning machine. This machine saves great labour; it cleans six forks at once, and is a most valuable acquisition to the pantry of hotels, public schools, &c. The machine is very simple in its action and not liable to get out of order.

THE CHADBORN AND COLDWELL MANUFACTURING COMPANY, 223, Upper Thames-street, E.C.,

Exhibited their well-known patent "Excelsior" lawn mowers, tubular garden seats, garden rollers, water barrows, &c., &c.

THE SANITARY AND DOMESTIC APPLIANCES COMPANY, 10, Exchange-arcade, Deansgate, Manchester.

This firm exhibited a collection of filtering machines, Fielding's patent Victoria gas heating smoothing iron, gas stoves, gas burners, metal fires, and other domestic inventions. We thought the Victoria "iron" the greatest novelty. It is shaped to fit on any ordinary gas burner, the flame going into a hollow in the iron. It heats in that manner very much quicker than if placed in front of or on a fire, and, of course, it will not black the articles which it irons.

MESSRS. ELLIS and CO., 164, Fleet-street, E.C.,

We noticed a very capital Turkish bath for home use, the "Facile" bicycle, and a good patent knife-cleaner.

MESSRS. C. KITE and CO., 117, Charlton-street, N.W.

Exhibited patent roof ventilators, drain ventilators, the Albert chimney cap, &c., &c.

ROBERT BOYLE and SON, Holborn Viaduct, London,

Showed Boyle's patent self-acting air-pump ventilators, for the extraction of the foul air from buildings of every description without draughts or currents. They have no mechanical motion, cannot get out of order, require no attention, and can be constructed to harmonise with every style of architecture. They are also applicable for the ventilation of soil pipes, drains, and sewers.

MR. G. FOUCHER, 29, Piccadilly, W.

Mr. Foucher exhibited a new mechanical contrivance for playing on a piano any music which is placed on it. The music is in strips a yard or so long and perforated with holes.

MESSRS. GARD and CO., Dunstable.

Of course this firm exhibited their well-known plate cloths. On their stand we noticed the "Common-sense Washer." With their soap dust and this machine, the dirtiest clothes can be made perfectly clean and white (after only boiling them) at the rate of six night-dresses, or an equivalent quantity of other clothes, in ten minutes, without their being touched by the hands, except to remove them from the copper, and turn them over occasionally in the tub while washing.

We noticed also the patent self-acting meat juice extractor. Most nurses and housekeepers believe they can make *real* beef tea, but in reality the article produced is gravy soup, because the only *nutritious* portion of the meat is the albumen, and this is rendered solid and quite indigestible.

MESSRS. BROWN AND GREEN, LIMITED, 72, Bishopsgate-street, E.C.

This well-known firm exhibited their "Gem" portable cooking stoves. These stoves require no brickwork; they will burn coal, coke, or wood, the ovens and hot plates being quickly heated with a remarkably small quantity of fuel. Brown and Green's medal kitcheners and celebrated ventilating and slow combustion stoves were also exhibited. We particularly noticed their No. 13 range. This strong, substantial range is specially designed to meet the requirements of large cooking establishments—giving an unlimited supply of hot water for baths, culinary purposes, &c. Besides the great capacity of the ovens, the whole of the top forms a hot plate for boiling and stewing. Being portable, it can be placed in position ready for use in a few hours. If additional cooking be at any time required, two may be used, placed either alongside, or back to back.

MR. HARRY HUNT, 117, Newington Green-road, N.

The celebrated "Crown Jewel" American base burner anthracite coal stove was exhibited from the works of the Detroit Stove Company. If the stove is placed in the passage or entrance hall of a house it will thoroughly heat it throughout for a few pence per day. It is also admirably adapted for heating churches, school rooms, railway waiting rooms, public halls, assembly rooms, institutions, &c. Over 60,000 are now in use in America. This stove only requires to be filled twice in twenty-four hours with anthracite coal, the temperature required can be regulated in a very short time by the dampers, and the rate of combustion observed through the mica of the doors. One ton of anthracite coal, burnt in this stove, gives more heat than three tons of bituminous coal burnt in grates. The consumption of the smallest-sized stove for twenty-four hours is 28lbs. of anthracite coal, value threepence, which will maintain a temperature throughout a moderate-sized house, from 55deg. to 65deg. Fahr. In remote districts, far removed from ordinary traffic, furnace coke has been broken to ordinary nut size, and used with very good effect in this stove. By giving the dimensions of the space to be heated (*i.e.*, cubical contents), the number of the stove required and price, with illustrated circulars, testimonials, Press opinions, and other information, will be supplied by Mr. Hunt.

MR. HELLIER, 61, Duke-street, Grosvenor-square, London, W.

On this stand was to be seen the instantaneous water heater, which will heat from one to six pints per minute to 150 deg. Fahrenheit, according to the size of the machine.

THE WILSON ENGINEERING COMPANY, LIMITED, 247, High Holborn, W.C.

The ranges which were exhibited are made in sizes from 18 inches up to 5 feet 6 inches. They are portable, require no brick setting whatever, each having a single smoke pipe, which may be carried into any chimney; they cannot get out of order. They have larger sized boilers and are of greater weight and durability than any hitherto manufactured. Fire bricks are not used in the fire box. This invention is designed upon a principle to accomplish the objects desired. The improvements chiefly consist in effecting with highly heated air the combustion of the smallest practical quantity of fuel, with the utilisation of that heretofore wasted in smoke; in giving a greater distribution of heat and in minimising the deposit of soot.

MR. JOHN BATEMAN, 104, Strand, London, W.C.,

Showed Bateman's "patent metal fire," a large red hot fire produced twenty seconds after striking the match. This portable fire or stove requires no chimney or setting. It is lighted instantaneously; has neither smoke nor smell; can be stood anywhere without fear of injury. The heat it gives is tremendous, exceeding that of a coal fire, its consumption costing only about threepence a day. The cold air rushes to the stove, and being warmed, radiates through the red-hot metal, and is thoroughly diffused through the room or building in which it is contained, keeping every part at the same tempera-

ture. In the summer this stove will be found very useful for cooking purposes, giving a great heat, which can be modified, and being both economical and clean.

THE EAGLE RANGE AND FOUNDRY CO., 168, Fleet-street, E.C.

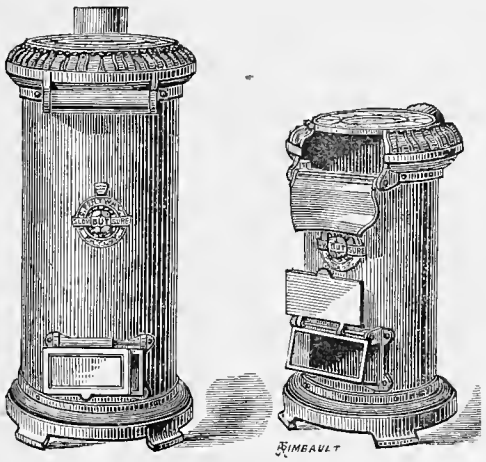
We noticed their patent Eagle range. This range requires no brickwork flues, it being sent out complete and ready for use; works with either a close or open fire; the fire can be made any size that is required; roasts well either in front of the fire or in the oven; the ovens can be heated either from the top or bottom flues, so that a perfect pastry baking oven or meat roaster is obtained.

Mr. PORTAWAY, Halstead.

The principle of slow combustion in close stoves was first made popular by Dr. Arnott, between 40 and 50 years ago, since which time more or less elaborate attempts have been made to improve upon his system with varying degrees of success, but it is not going too far to say that, until recently, there have not been better stoves than his produced at equal prices: better stoves have been produced, but at proportionately larger cost; and the market was not supplied with a good serviceable and cheap slow combustion close stove until the "Tortoise" was introduced in 1877.

The very strong hold it has taken on the public, and its almost universal adoption by the trade of ironmongers, who are always on the look out for any speciality which is both good and reasonable in price, is a great evidence of the value of the invention; but another proof is, the many spurious imitations which, during the past two years, have been introduced on the market, and in some cases represented as the "Tortoise."

The stoves are really nothing more or less than fire-clay baskets surrounded by wrought and cast iron coverings, whereby all the advantages of a firebrick stove are obtained



without any of the inconveniences of having a brittle outer casing constantly exposed to accident. The fire never comes in contact with the iron, consequently the heat is always wholesome and sweet. The position of the flue nozzle ensures that the products of combustion, sulphur, gas, &c., pass away as soon as produced, there being no space-chamber for the accumulation of same, and the feed door is so placed that when opened it increases the natural draught of the flue, and the gases, &c., are driven up the flue with even greater force than when the door is closed, consequently it is impossible for any sulphur to escape into the apartment. The combustion is controlled most efficiently and easily by a sliding door, by the adjusting of which the smallest size stove may be made to burn for six to ten hours, and the largest from 24 to 48 hours without attention.

MESSRS. BROWNE & Co., 186, Piccadilly, W.

The firm exhibited duplex gas burners, sanitary stoves, gas cooking stoves, duplex and other lamps, &c.

JAMES M. TAYLOR, 52, Tuilerie-street, Hackney-road, London, E.

The "Eclipse" chimney-top and ventilator was shown on this stand. It is guaranteed to be effective in operation, whilst moderate in price and ornamental in form. It can be fixed anywhere, either as a chimney-top or as a ventilating shaft. Being applicable to churches, chapels, all kinds of public buildings, and private dwelling-houses, it is equally suitable for the palace of the peer or for the cottage of the peasant.

J. L. HANCOCK, 15, Cottrill-road, Dalston-lane, E.

Mr. Hancock exhibited his scientific bread-making machine. By this machine the whole process of bread-making is done without the dough being touched by the hands. We tasted some of his bread, which was light and of excellent quality.

DAVIS' EXCELSIOR KNIFE-CLEANING MACHINE COMPANY, LIMITED, Leadenhall-street, E.C.

Knife-cleaning machines to clean from two to nine knives, mincing and sausage machines, coffee grinding mills, and other domestic articles, were exhibited on this stand.

MESSRS. H. L. JUDD and COMPANY, 78, Fann-street, London, E.C.,

Showed blind furniture, folding tables, carpet sweepers, velocipedes, and various other domestic appliances.

MR. ALEXANDER RUDOLPH, 52, Catherine-street, Strand,

Exhibited the handy knife cleaning machine, a model American knitting apparatus, and a model electric lamp, automatic action, burns ten hours without attention.

MESSRS. EWART and SON, 346, Euston-road,

Showed the "Swift" washer, the "Crown" boiler, and the "Empress" patent chimney-pot, the latter an effectual cure for smoky chimneys.

THE PATENT GAS APPARATUS COMPANY, 47, Millbank-street, S.W.,

Exhibited their machines which have been working for the past seven years for producing fine light in country mansions.

ANGLO-AMERICAN LAUNDRY SUPPLY COMPANY,

A. B. Furlong, 50 and 52, Fann-street, Aldersgate-street, E.C. Mr. Furlong exhibited a shirt collar and cuff ironing and polishing machine, which we illustrated in this journal last month.

MR. JOSHUA GEO. WAGSTAFF, Alma Iron Works, Dukinfield, Manchester,

Exhibited Wagstaff's patent upright tubular saddle and conical cylindrical boilers, for heating conservatories, forcing-pits, churches, chapels, schools, halls, &c., by means of hot-water circulating pipes in such a manner as to effect a great saving in fuel.

MESSRS. CORRY, SOPER, FOWLER and Co., LIMITED,

18, Finsbury-street, E.C., and Shad Thames, S.E., London,
Exhibited a very attractive stand of artificial wreaths, flowers, grasses, &c.

MR. C. WRIGHT, Park-street, N.,

Showed potato peelers, knife cleaners, mincing machines, cinder sifters, and carpet sweepers.

MESSRS. AGATE and PRITCHARD, 68, Gracechurch-street, E.C., and 183, Church-street, Stoke Newington.

Some excellent overstrung pianos were exhibited by this firm. Their grand piano was used for the concerts given during the Exhibition.

MR. JUSTIN BROWNE, 237, Euston-road, N.W.

Mr. Browne showed several of his excellent, well made pianos. His Class 5 ebony and gold pianoforte was much admired.

MESSRS. C. VENABLES and Co., Essex-road, N.,

Showed a good stand of pianos, on several of which Miss Lucy Thomas performed at intervals during the day.

MESSRS. GEORGE WHIGHT and CO., 143, Holborn Bars.

This firm exhibited a musical cabinetto which plays every description of music. This instrument requires no knowledge on the part of the player. They also showed the "Duchess" sewing machine, the "Prima Donna," the "New Excelsior," the "Family," and other sewing machines.

THE STANDARD MANUFACTURING CO., Derby,

Exhibited the "Standard' tree pruner, which is an implement

having two long arms, to enable the gardener to prune trees, vines, &c., without the aid of a ladder.

JACOBS and CO., 179, Aldersgate-street, E.C.,

Showed knife-cleaners, coffee percolators, and other domestic articles.

MESSRS. W. P. BRANSON & Co., 104, Wurtemberg-street, Clapham.

This firm exhibited Branson's Extract of Coffee. By the use of this extract a splendid cup of coffee may be made instantaneously, and at any moment, by mixing one or two spoonfuls of the extract with boiling water, with positively a better result than can be obtained by making coffee in the ordinary way.

THE STAR PLATE AND UNIVERSAL POLISHING POWDER COMPANY, 49, Fann-street, Barbican, London, E.C.

The Star plate polishing powder, exhibited on this stand, is a mineral preparation, entirely free from acids, mercury, or any injurious matter, and is also perfectly free from grit or any rough substance, and will not scratch or mark the smoothest surface. It will impart an instantaneous, brilliant, and lasting polish, as is applicable for cleaning and polishing gold, silver, and electro-plated goods, for polishing brass, copper, tin, &c., also for looking-glasses and plate glass.

MRS. E. H. JOLLEY, 2, Rue T'Kint, Brussels.

Mrs. Jolley exhibited ice machine, ice safes, butchers' safes, &c., &c.

MESSRS. INWOOD & RAWLINGS, London-road, St. Albans,

Showed the "Cyprus" carriage, "Cee-spring" gig, "Alexandra" cart, a "Clerical" cart, and other carriages.

MR. E. A. WINKS, 402, Essex-road, N.,

Exhibited brass bedsteads, spring mattresses, drawing-room suites, and other furniture.

MESSRS. JOSEPH DAVIS and CO., Fitzroy Works, 6, Kennington Park-road, London, S.E.,

Exhibited a splendid collection of barometers, thermometers, creamometer tubes, lactometers, hydrometers, and other scientific articles.

MR. H. MAY, Bride-street, Barnsbury, N.,

Showed May's improved extract of soap, for washing, cleaning, and cleansing purposes of all kinds, no matter how dirty or greasy the article may be, especially useful for washing the hands, being a great purifier, lathers freely. No soap is required if this extract alone is used. Also May's washing powder for softening hard water, and for all laundry purposes; may be used for the finest laces or curtains to the coarsest towel, and is a great labour and time-saver.

MR. C. C. TIMDARS, 327, Gray's-inn-road,

Showed pneumatic bells, indicators, door catches, despatch tubes, and speaking tubes.

MR. B. WARNER, Market-place, Devizes.

We saw on this stand a patent coal vase, so constructed as to prevent the miscarriage of its contents. The weight of coal acting by means of the handle as lever upon the lid, keeps it firmly closed during transit.

MESSRS. R. HOOD and SON, Minerva Works, 30 and 31, Hatton-garden, E.C.,

Showed the Lady Help patent knife cleaner, which was awarded a prize medal at Sydney, 1880. This machine thoroughly cleans all kinds of table cutlery, including carvers and steel forks, on the new principle, between revolving indiarubber rollers, by which much labour is saved and the wear and tear reduced to a minimum.

The Perfection patent knife cleaner, which was also shown, is on the same principle as the Lady Help, but with a slightly different arrangement of the indiarubber rollers, rendering the cleaning an even more easy operation. These machines are suitable for large and small households, hotels, restaurants, ships, &c., and four knives per minute can be easily and continuously cleaned by any ordinary servant.

MR. B. W. MAUGHAN, 41, Cheapside, E.C.

A large and attractive show of Maughan's patent Geysers (or instantaneous water-heaters) and baths of all sizes and descriptions was made by this exhibitor.

MR. N. C. HERTS, 8, Oxford-street, W.,

Exhibited the universal carpet sweeper, which is a very valuable machine which performs its work without making dust.

On the stand of

MESSRS. CHORLTON and DUGDALE, 19, Blackfriars-street, Manchester.

This firm showed the "Excelsior" spring mattress, the "Matlock" couch, and a patent pillow divider, for preventing one sleeper from inhaling the breath of another. On this stand we also noticed the "Sun Light" heating and cooking stoves.

MESSRS. BURROUGHES and WATTS, Soho-square, W.

Perhaps the most handsome exhibit was that of this firm, who showed their well-known billiard tables and billiard-room furniture.

MR. EDWARD GOODDY, 18, Cockspur-street, Pall Mall, S.W.,

Showed the Duke of Edinburgh patent trousers press for preventing bagginess at the knees.

MR. E. T. THEOBALD, Portland House, Greenwich,

Exhibited a collection of patent hydraulic washers, opera, field, and marine glasses, microscopes and telescopes, model steam engines, magic lanterns and slides, and stereoscopes.

MESSRS. GRISWOLD and HAINWORTH, LIMITED, 41, Charterhouse-square.

Stocking knitting machines, with ribbon attachments, and samples of socks and stockings and other hosiery made by these machines, formed one of the most attractive exhibits of the show. Messrs. Griswold had several smart young girls working and explaining their machines.

THE SILICATED CARBON FILTER COMPANY, Church-road, Battersea.

A good collection of domestic filters was made by this firm. We particularly noticed the silicated carbon table filters, which received the certificate of merit from the Sanitary Institute of Great Britain, 1880.

BRADLEY BARNARD, 107, St. Paul's-road, Highbury, N.,

Exhibited patent folding hammock bassinettes; also a patent folding camp table, and other domestic articles.

MESSRS. F. and C. HANCOCK, 29, Oxford-Street, Dudley,

Showed machines for washing, cooling, and salting butter from the churn; also for washing salt and rancidity from tub butter for daily use, and for mashing potatoes into ornamental form for table, and also for pressing the juice from fruit.

MESSRS. CAMERER CUSS and Co., 522, Oxford-street, W.

A good collection of musical cuckoo clocks, singing bird clocks, trumpeter clocks, chiming clocks, early English clocks, quail and cuckoo clocks, calendar clocks, patent 8-day alarum clocks, artist figure clocks, moving musicians clocks, military clocks, &c., &c.,

MR. GEORGE E. PROUT, 57, Eden-grove, Holloway, N.

On this stand we noticed "The Housekeeper's Friend," an article which will ensure the safe bolting of the street door at night.

THE TENSION BICYCLE CO., Watson-street, Stoke Newington-green, N.,

Showed the patent "Tension" bicycle, and also the new patented "Arrow" tricycle, with the new hill-climbing gear.

MR. E. HILTON, 10, Canonbury-road, N.,

Showed an American patent ventilated refrigerator, for cooling without ice; also apple and potato parers, knife cleaners, egg poachers, &c.

THE PATENT GAS BURNER COMPANY, Peckham, S.E.,

Exhibited a collection of sanitary gas burners, warming stoves, and kindred articles.

MR. JOHN J. GENT and CO., Leicester,

Showed pneumatic, electric, and other bells for domestic use and for the alarming of burglars.

MR. ROBERT ADAMS, 7, Great Dover-street, S.E.,

Showed a new arrangement of fanlights for greenhouses, Venetian blinds, and other articles.

MR. GEO. ABSELL, 157, Queen's-crescent, London, N.W.,

Exhibited Absell's patent change giving machine. This machine does away with the public display of silver for change, inasmuch as, being contained in a locked box, it can only be obtained by means of its equivalent in gold. Foreign gold, of less value than 20s. or 10s. respectively, bad money, and even light English coin, if necessary, are rejected by the apparatus; whilst as a preventative of theft and the avoidance of disputes, the machine is perfect. Its merits can be summed up in the one fact that, unless an English gold coin is placed in the receptacle, change cannot be extracted, whilst, if that be done, the amount of silver is instantly discharged.

MESSRS. CARTER and AYNSLEY, 54, Bishopsgate-street Without, E.C.,

Showed a patent lowering, raising, and burglar-proof sash appliance. The special feature in this apparatus is, that whilst the movement of a sash so fitted, by any other means, is absolutely impossible, its use even with large and heavy windows calls for only a very slight effort on the part of the operator, viz., the simple turning of a winch or handle, which can be easily effected by a lady or even an invalid. Bankers and others requiring great security cannot fail to perceive the advantage of this.

MR. WILLIAM BURLEY, 34, London-wall, London, E.C.,

showed Young's patent cord fasteners. These are the climax of simplicity for Venetian blinds and all purposes where cords or ropes are used, costing no more than plate hooks and superior to check actions, and can be fitted by any person, without taking down the blinds. There were also shown patent adjustable rack pulleys, springs warranted made from best piano steel wire, thoroughly reliable, and require no attention. Also roller blind fittings, improved, with guard to prevent cord slipping over the pulley, more durable and efficient than spring roller blinds; Chase's patent acme button fasteners; and Day's patent climax ball valves and water waste preventers were also shown.

Southwood's patent railway and carriage umbrella rack, patented in Great Britain, France, Belgium, Germany, United States, &c., attracted much attention. It is for affixing to the doors of railway carriages, broughams, and all vehicles. The invention is an indispensable convenience, requires no attention, occupies very little space, and effectually disposes of the most objectionable encumbrance of a wet umbrella. It also forms a cheap stand for umbrellas, &c., to be fitted on the back of street doors.

MESSRS. W. HATCHMAN and CO., 73 and 74, Wood-street, E.C.,

Exhibited the combination box-couch-tent (registered), three in one. A unique inveution for camping out and all out-door amusements. This tent, which possesses the special qualifications of extreme lightness, great strength, and elegant appearance, is well adapted for all climates; is made of a strong coloured striped tent cloth; is 12ft. in diameter; can be easily put up and taken down; and can be so packed as to be contained in a small box, which, when opened and extended, forms a full-length couch. We also noticed Jackson's patent camp furniture, comprising a most comfortable bedstead, 6ft. by 2ft. 2in., complete, very light, portable, and yet strong; also one table, one washing-stand or dressing table, and two seats, in best polished mahogany, which is patronised by the officers of H.M.'s Service. The whole can be put together in a few minutes, and forms the most useful and compact suite of tent furniture which has ever been invented. It is packed in a case 2ft. 6in. by 1ft. (outside measure), every portion of which and contents being utilised in forming the above. They are put together without the use of any tools whatever, the parts are all numbered and fitted with brass slots, so that, with ordinary care, a mistake in fitting is absolutely impossible. It is used by officers, volunteers, travellers, rowing men, explorers, hunters, sportsmen, colonists, hospitals, &c., &c.; and in private houses for spare rooms, or as extra bed-room furniture.

THE STEAM TRICYCLE.

This machine, which attracted much attention, can be propelled either by the ordinary pedal motion, by steam alone, or by both combined. Here and there a case may occur where a rider may prefer to sit and do nothing—such as an artist seeking scenery for the exercise of his pencil, and naturally desiring to keep a perfectly steady hand; the travelling amateur photographer, the country gentleman traversing his estate, the lady going out on her round of afternoon calls, &c.; but the majority undoubtedly would prefer to have a hand in the business—or rather a foot—and to work as usual, assisted by the steam or other motive power. Sufficient speed, it may be accepted, can already be obtained for real safety in road riding and for pleasure; but the practicable distances could be enormously increased by a reduction of the physical effort now necessary. An average speed of 10 miles an hour could not be maintained by an ordinary rider on a tricycle for more than, say, half a day, but a very indifferent rider with mechanical assistance could keep it up all day and night too, if he wished, without undue strain. In the machine now under consideration steam is employed as affording assistance in propulsion. A pair of neat little horizontal double-action steam engines are placed on the top of the boiler, which is of peculiar construction, and practically automatic in its action. The crank shaft drives at one end a small circulating pump, which re-

introduces into the boiler the condensed steam previously used. The waste is so little as to be practically *nil*. At the other there is a small spiked wheel, carrying an endless chain, which works on to a larger spiked wheel on the axle of the driving wheel. The engine thus runs at a somewhat high speed, far in excess of the driving wheel. The liquid fuel being lighted under the boiler, in three or four minutes there is enough steam generated to propel the machine. By turning one tap a start takes place, and absolutely continuous action results for many hours, provided no insurmountable obstacle, such as a brick or too steep a hill, intervenes. A safety valve prevents danger from too much steam. In stopping, both steam and fuel are turned off, and the simplicity of the whole arrangement is such, that a very few minutes suffice to learn the management. There is no appearance of steam, no puff, no noise, no smoke. The expense of the liquid fuel is slight, and there is really little limit to the extension of driving power, &c.

The particular machine exhibited carries out several ideas of the inventor (Sir Thomas Parkyns), and may or may not commend itself to the eyes of those who are used to the elegant, light designs now popular; but the principle of propulsion, or assisted propulsion, can be applied to almost any known make of tricycle, and the details can always be a matter of individual taste. It is more than probable that important modifications will be introduced, but none the less will the credit belong to Sir Thomas Parkyns of having invented, made, and successfully used the first steam-propelled tricycle—a machine possessing the power of going 10 miles an hour on good level road, being perfectly noiseless and without visible means of propulsion, easy to attend to and understand, cheap to keep, not likely to want the doctor, and which may prove to be the father of a long line of vehicles destined in the future to carry not only the seeker after amusement and health, but the artist, the photographer, the messenger, the commercial traveller (in parts yet untouched by the railway), the rural postman, the inspector of police, the baker and the butcher boy, *et hoc genus omne*.

Messrs. S. and H. HARRIS, Mansell-street, London,

Exhibited the following articles:—The ebonite waterproof blacking for boots and shoes. Requires no brushing, gives a fine polish, not affected by damp or rain, non-injurious to the leather, being entirely free from acid. Japan lustre blacking, specially manufactured to suit warm climates, and celebrated for its brilliancy. Military waterproof pouch blacking. British polishing paste: this composition, in which there is nothing corrosive or injurious, gives a fine polish to brass, copper, tin, pewter, Britannia metal, plate, coach glasses, and windows. Plate powder, white and black, for silver harness mountings and all kinds of silver plate. Furniture polish: this article preserves and beautifies mahogany, stained wood and all furniture that requires a polish, and retains its beauty for a considerable time by only an occasional rub with a soft dry cloth or brush. Furniture cream: This article preserves and beautifies mahogany, stained wood, papier maché, and all furniture that requires a polish, and retains its beauty for a considerable time by only an occasional rub with soft dry cloth or brush. Brunswick black: Beautifies and preserves stoves, chimney corners, all kinds of iron work, tin, wood, &c., and is found particularly useful where the articles named are exposed to weather, and preserves from rust. Jet black oil for harness: For producing a jet black, and nourishing the leather—specially adapted for cart and farm harness. Real curriers' dubbing—black or yellow: For softening the upper leather of boots or shoes and making them pliable and durable—also applicable for harness, carriage heads, &c. Harris's waterproof harness composition. Harris's urn powder, for cleansing and preserving the brown on tea-urns. Steel powder, for cleaning and polishing bright stoves, fenders, fire irons, sewing machines, bicycles, and all fine steel articles.

MR. CHARLES H. SOUTHALL, Armley, Leeds.

One of Southall's automatic boot cleaners, working by steam, was busily employed putting a shine on several of the understandings of her Majesty's subjects. It is possible and customary to brush off the dirt, put on blacking, and polish without once stopping the machine. When worked by power it will stop automatically, and ring a bell to call attention. Thus a person may stand by and watch only while his boots are beautifully polished, or one man may attend to at least six machines; and by this means get through the work with great rapidity. The machines never get out of order, and can be used immediately without instruction; they are made to clean either one or two boots at one and the same time. A man may get up of a morning, put his boots on the machine, start a water or gas engine by simply turning a tap, and in less than one minute finds his boots beautifully cleaned. The action is precisely like that of the human arm. An ordinary flat brush moves backward and forward with rapidity, whilst every part to be polished is presented alternately; and in a surprisingly short space ot time a most brilliant polish obtained. Children's boots, so difficult to hold by hand, are polished as easily and brightly as any other kind. In cleaning boots by hand the linings often get soiled by the hands of the operator, and these dirty the stockings of the wearer; this cannot occur when boots are cleaned by this machine, because they are held on a clean wooden expanding last, made to suit all sizes and sorts. A child can clean all the boots of the largest family without fatigue, and far better than the strongest man can do them by hand.

MR. J. E. H. ANDREW, 20, Waterloo-road, Stockport.

The "Bisschop" patent gas engine, which formed one of the greatest novelties of the late Paris Exhibition, was shown by this exhibitor. It is most economical and simple, requiring scarcely any attention. There is no danger of explosion; it makes little noise, and in most cases may be placed in the upper storey of a house. It is very strong and easily managed. The piston and slide-valve do not require oil or grease, which enables it to run night and day without supervision. This engine needs no other fixing than simply being placed on the ground, and no separate meter is requisite. It requires no water. It will be found of the greatest utility for any machines requiring but small motive power, and is invaluable as a substitute for manual or foot power.

MR. G. EDWARDS, 182, Kingsland-road, N.

Mr. Edwards exhibited a very attractive stand of billiard tables and bagatelle boards.

CROSSLEY BROTHERS, Poultry, E.C.

This firm exhibited one 2-horse patent "Otto" silent gas engine. These engines are worked by igniting gas under compressure with air in the cylinder. The consumption of gas for a half-horse power gas engiue is about 11 feet per hour. The average cost is 1d. per hour per horse-power. These engines are made in various sizes, from ½-horse to 9-horse power, and used for pumping, chaff-cutting, corn mills, sawing, hoisting, printing, electric lighting machines, sewing machines, washing and other laundry machines, lathes, sugar and coffee mills, corn-crushers, sausage-machines, &c., &c.

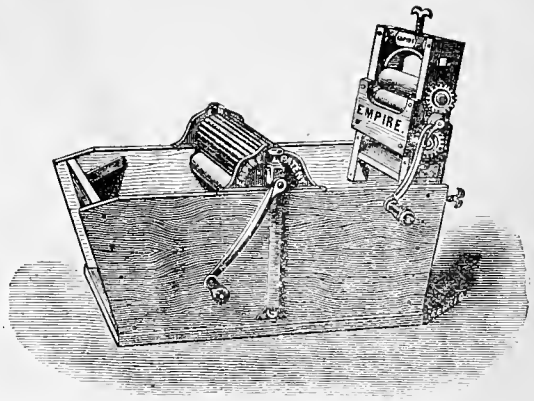
MESSRS. B. F. BROWN and CO., 20, Norman's-buildings, St. Luke's, London,

Exhibited their well-known satin polish for boots and shoes. Ladies' shoes which have become red and rough by wearing are restored by an application of Brown's polish to their original colour and lustre, and they will not soil the skirts when wet. It is put on with a sponge attached to the wire and cork in each bottle. It requires no brushing, and does not harden or crack the leather. They also showed the "American magic bronze" for use on boots and shoes, ornaments, picture frames, iron, and fancy work, and also the Heaton button fastener. The saving in time by the rapid and secure way in which buttons can be fixed on with this fastener and instrument is considerable. A trial by those who have not as yet used them will not fail to give entire satisfaction.

We have endeavoured to give as comprehensive a description of the exhibits as possible. We have said nothing about the various charitable institutions who showed their work and workers as our readers will find several accounts of them in other columns under the heading "opinions of the press."

"EMPIRE" WASHER.

THE BEST AND CHEAPEST MACHINE FOR FAMILY USE YET OFFERED TO THE PUBLIC.



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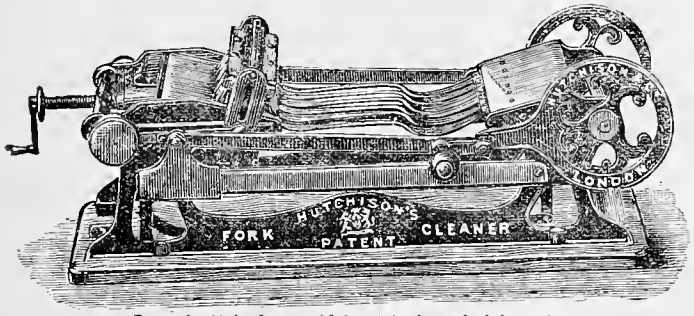
T. WOLSTENCROFT & Co.,
93, HIGH HOLBORN, LONDON.

HUTCHISON'S PATENT FORK CLEANING MACHINE,



Length, 23 inches; width, 12 inches; height, 9 in.

Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

N.B.—This Machine is the greatest preventative of damage to which the prongs are exposed when cleaned by hand.

HUTCHISON'S PLATE POWDER,

As used in the Patent Fork Cleaning Machine. For cleaning and brilliantly polishing all kinds of Plate, Plated Articles, Metal, Tin, Pewter, Looking Glasses, &c. To be had at Oil and Colour Warehouses, and of Ironmongers and Storekeepers.

Prices, in Tin Canisters, ½-lb., 6d.; 1-lb., 1/; 2-lb., 1/9.
Liberal terms to Shippers and Merchants.

Messrs. HUTCHISON & Co.,
MANUFACTORY: 51, FANN STREET, ALDERSGATE STREET, LONDON, E.C.

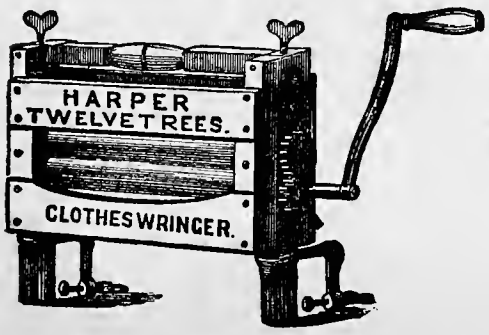
Harper Twelvetrees' "Fountain" Washer

RETAIL PRICE, 10s. 6d.

Is entirely SELF-ACTING; no rubbing, labour, or attention required; no handles, wheels, pounders, or brushes. A current of boiling suds is passed through and through the clothes, which are thus washed and beautifully bleached at the same time; the result is really astonishing. Hundreds of thousands of busy mothers require this wonderful labour-saving Machine. Full Particulars and Wholesale Price to Agents on application to

HARPER TWELVETREES,
Patentee and Manufacturer, 80, Finsbury Pavement, London, E.C.

HARPER TWELVETREES'
INDIA-RUBBER CLOTHES-WRINGERS,



WITH COG-WHEELS,

Strong Frames, Metal Bearings, Adjustable Claspers, and other great improvements, have maintained their supremacy for eighteen years as the "Gem of Clothes-Wringers." They will fit tubs of every shape, and wring the largest as well as the smallest articles dry instantly without labour, dropping them into the basket nearly dry enough to iron or mangle. These well-known and much-prized Clothes-Wringers are specially adapted for the heavy, constant work of laundresses, and are immensely superior to the slightly-made delicate American Importations.

Prices: 30s., 40s., 50s., or without Cogwheels, 25s., 30s., 35s.

Harper Twelvetrees' Cheap Fifty-Shilling Mangle and Wringer, 24-inch Rollers.

Harper Twelvetrees' Magic Prize Washing Machine, 21s.

Wholesale Quotations, Post free, from

HARPER TWELVETREES,
Laundry Machinist,
80, Finsbury Pavement, London, E.C. Works: Burdett Road, Bow, E.

RENNICK, KEMSLEY & CO.,

SOLE AGENTS IN EUROPE FOR

Johnson, Clark & Co.,

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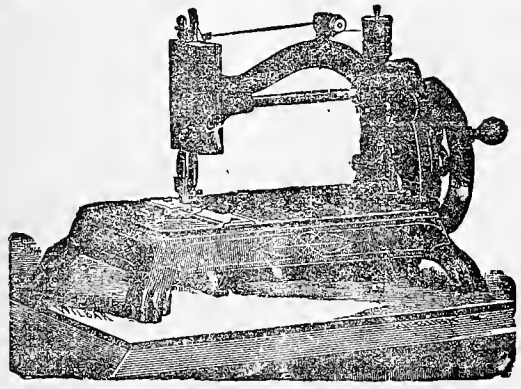
THE "HOME SHUTTLE"

Still keeps its place as being the best Hand Lock-Stich Sewing Machine in the world. It is exceedingly simple, never out of order, and always presents a bright and attractive appearance.



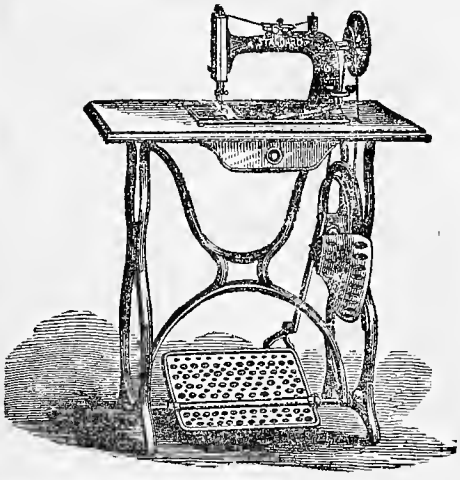
We have added the loose winding wheel and all latest improvements.

THE BEST TREADLE MACHINE IS THE

Light Running "Standard"

For Manufacturing and Family use.

Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.



IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

It is a Model of Strength and Beauty.

The most Elegantly Ornamented Machine in the world. Lasts a lifetime, and NEVER gets OUT of ORDER. EXCELS ALL OTHERS IN THOROUGHNESS OF WORKMANSHIP.

We wish to establish Agencies in all Towns, and will give exclusive territory to first-class houses, and furnish Machines at very low prices.

RENNICK, KEMSLEY & CO.,

(Late Johnson, Clark and Co.),

Finsbury Circus, LONDON, E.C.

By Royal Letters Patent.

THOMAS WARWICK,

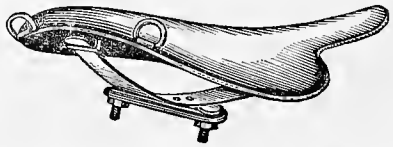
MANUFACTURER OF

BICYCLE MATERIALS

Of every description, Wholesale and for Exportation.

WARWICK'S PATENT POTENTIAL RIMS.

SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

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SEWING MACHINERY,

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A PRACTICAL MANUAL

OF THE

SEWING MACHINE,

Comprising its History and Details of its Construction, with Full Technical Directions for the adjusting of Sewing Machines.

By J. W. URQUHART.

CROSBY LOCKWOOD & Co., 7, Stationers' Hall Court, Ludgate Hill, London, E.C.

SEWING MACHINE BUSINESS.—WANTED, by Advertiser (age 29), a Situation as Manager of Branch Depôt, or Canvasser and Collector. Seven years experience; most part as manager. Thoroughly acquainted with the hire system. At liberty April 30 next.—Apply, Sewing Machines, 29, Churchgate-street, Bury St. Edmunds.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

THE First Annual Exhibition of Domestic Labour-Saving Appliances at the Agricultural Hall, a full report of which appears in another column, was undoubtedly a great success. The large hall was quite filled with exhibits, and remained open for a week beyond the appointed time by the general wish of the exhibitors, who all appear to have done a good stroke of business; indeed, the Hall was at all times—with the exception of the two first days—quite filled with a highly respectable company of visitors,

and it is already announced that the second annual exhibition will be held at the same place, opening on May 1, 1882. We are very glad to note the success of this exhibition, because it speaks well for the interests of all in the trade, as a larger demand for labour-saving appliances of all kinds is sure to be stimulated by such gatherings. Visitors go, probably, in many cases, from mere motives of curiosity; but they see some article likely to be useful in their household, and a new want is at once both created and satisfied—of course to the advantage of the exhibitors. This, of course, is a mere trade view of the matter, but there are other aspects of the question that are worthy of consideration. Novelties of all kinds are brought together, invention is stimulated, and improvements are made in existing machinery which would otherwise not have been thought of. We are, therefore, glad that this first exhibition has been so successful, and we hope the second will be—or ought to be—another step further in the right direction.

Mr. Hermann Loog has turned poet: finding all other trades fail, he has taken to verse. He rhymes "heard" to "dirt," and "pale" to "hell"—his lines are all sorts of lengths, and his sense is past finding out. Take the following as a specimen:—

"The lynx's lurking eye,
The fox's cunning spy,
The tiger's bloody inclinations,
The crocodile's all possible abominations,
Killing and whining all in a breath."

Courteous and patient reader, we have quoted this rubbish *verbatim et literatim* from a poem, just sent out to the Sewing Machine Trade generally, and bearing Mr. Loog's initials.

What on earth the man means no sane mortal can tell, but this abominable mass of nonsense is supposed to be in some way or other intended as a fitting description of one of the most esteemed members of the Sewing Machine Trade in this country, and it is part of a pamphlet which Mr. Loog has thought fit to publish upon a recent decision in the Law Courts in the case of Wright v. the Wheeler and Wilson Manufacturing Company.

Of the exquisite delicacy of diction and refinement of style which marks all Mr. Loog's lucubrations either in prose or poetry it is surely unnecessary to remark; he is a heaven-born genius, and of no man is the axiom more true than of him, *nascitur non fit;* in fact, a second Hermann Loog could not be made at any price—nature produced him by a most heroic effort—and "the force of nature can no further go." The fact is, that Mr. Loog's temporary success in the Court of Appeal the other day appears to have sent him off in the direction of Colney Hatch instead of Portugal-street as heretofore. He may rest assured, however, that the important issue raised in the suit instituted against him by the Singer Company is not yet finally determined, and the judgment of the law lords will be awaited with confidence by all those who wish well to the success of the English sewing machine trade as distinct from German and other pirated imitations. The tirade of abuse which in Mr. Loog's pamphlet is directed against Mr. Hunting—the esteemed and courteous manager of the Wheeler and Wilson Company, will only gain for its writer an increased measure of pity in the minds of all those who clearly understand the issues recently raised in the trade. Mr. Loog, at the end of his pamphlet, questions the accuracy of a report in this journal of a meeting recently held for the purpose of presenting Mr. Gompertz with a testimonial. We simply say that it was a meeting of gentlemen, and therefore it is not in the least surprising that Mr. Loog knew nothing about it.

OUR ILLUSTRATED SUPPLEMENT.

We illustrate this month the New Arm Machine, just introduced by the Singer Manufacturing Company, Foster-lane, Cheapside. The machine is admirably adapted for the leather trade, being most especially suited for the making and repairing of boots and shoes, Gladstone bags, &c. For a full description of this machine we refer our readers to our report on another page of this Journal of the stand of the Singer Manufacturing Company at the Labour-saving Appliance Exhibition.

At Stand No. 250, at the late Domestic Exhibition, was shown a patent automatic button-hole attachment for sewing machines, making 200 perfect button-holes per hour, and which attracted considerable attention. It is the invention of Messrs. Felton and Hickman. We will give full particulars in our next issue.

THE BOARD OF TRADE RETURNS.

The Board of Trade Returns for March, and for the first quarter of the year, are more favourable than could have been expected after the complaints lately heard from various business centres. The value of the exports last month was £19,131,038 against £18,852,050 in March, 1880, and £16,170,518 in March, 1879. This increase is mainly due to the large shipments of cotton manufactures to Turkey and the East, as iron and steel and many other commodities show a considerable falling off. The following are the principal items that have improved: Apparel, arms and ammunition, bags and sacks, chemicals, cotton yarn, cotton manufactures—20 per cent. in quantity—earthenware, haberdashery, hardware, lead, leather, linen yarn, jute yarn, jute manufactures, machinery, silk yarn, silk manufactures, refined sugar, and woollen and worsted manufactures. The decrease is chiefly, as already stated, in iron and steel, the quantity of which exported last month was only 290,198 tons against 387,305 tons in March, 1880; but in addition the following have diminished—coal, alkali, linen manufactures, oil, telegraphic wire, tin, wool, and woollen yarn. The declared value of the imports was £36,842,336, against £37,638,944 in March, 1880, and £29,840,600 in March, 1879. A considerable increase is shown in cotton, but a decrease in wool. Grain and provisions generally have largely augmented, while wine, tobacco, and sugar have been imported in smaller quantities.

ART NEEDLEWORK.

The exhibition of art needlework opened a few days ago at the London School of Art Needlework in Exhibition-road, South Kensington. It is chiefly rich in ancient English work, including that distinctive stitch which marks the "opus Anglicanum," properly so-called. Very interesting and curious devices are to be seen here, the life-work in their day of some such artists as that gentlewoman buried in Westminster Abbey, on whose headstone it is in all humility recorded that "she was an excellent needlewoman." The Dean and Chapter of Worcester have sent fragments of red silk embroidered in gold thread with effigies of crowned and sceptred kings in convoluting scroll, from the coffin of Bishop de Blois, chief of that diocese early in the 13th century. The fragments have been disentombed, and, as the *floruit* of the bishop is from 1218 to 1236, there can be no doubt of their antiquity. Similarly authentic testimony to the early progress of the art is borne by the fragments of woven materials, some shining with gold thread, dug from the tomb in Worcester Cathedral, of Walter de Cantilupe, who died in the second half of the 13th century. Mr. Cyril Flower has lent a chasuble of the 14th century. The rector of Dunstable contributes a gorgeous pall of red velvet and cloth of gold, which dates from the 15th century, and is wonderfully preserved, having been walled up to save it from the destructive zeal of Puritan days. When it was in use it was hired by parishioners for first-class funerals at the rate of 6d. a day. Many other fine examples were exhibited, as also some excellent modern work.

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ESTABLISHED 1848.

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PRESS NOTICES ON THE EXHIBITION OF DOMESTIC LABOUR-SAVING APPLIANCES, 1881.

From amongst the numerous notices of this Exhibition we give the following, which are a fair representation of the whole:

The *Times*, March 14th, 1881.

An exhibition of domestic labour-saving machinery and of articles intended to increase comfort and promote thrift in the household has been opened in the Agricultural Hall, Islington. Without entering into detail, it may be said that housekeepers of every class will find something to interest them. For the garden there are tools with which large fruit trees may be pruned without the aid of a ladder, and novel folding tents in which a family might sit comfortably, and which pack, framework and all, into a box the size of those containing a croquet set, the box, too, being made to serve the purpose of a table when the tent is in use. For the kitchen there are many patent cooking stoves and ranges, a new arrangement for doing away with the dangerous kitchen boiler, smokeless fuel, cooking utensils of American manufacture, very light and said to be heat-proof and incorrodible. There are inventions of many kinds for saving the work of the cook, the housemaid, and the laundrymaid, specimens of furniture of novel design for general use and for the invalid, and contrivances for insuring ventilation and sanitation. Of things which do not strictly come within the object of the exhibition there are many, ranging from microscopes to bicycles, the principal novelty being a steam tricycle. Three stalls which should not be overlooked are those occupied by the blind woodcutters and brush and basket makers under the care of the Association for Promoting the Welfare of the Blind, and by children from the Children's Home and Training School for Christian Workers, and from Dr. Barnardo's Home.

Daily News, March 11, 1881.

Until the 19th inst. an exhibition of domestic labour-saving machinery and other household appliances will remain open at the Agricultural Hall, Islington. During that period the public will have an opportunity of inspecting many of the latest improvements in billiard tables, sewing machines, knife and fork cleaners, washing, drying, and wringing machines, cooking apparatus, and so forth. There is also a remarkable engine on view, which hardly comes within the category of domestic apparatus, inasmuch as it is an aid to travel. The steam tricycle is an ingenious device for using petroleum as fuel for creating the motive power steam, and is reported to carry a sufficiency thereof for a day's journey at the rate of nine or ten miles per hour. Another important application of machinery is that which enables children to do almost men's work as carpenters and shoemakers. Dr. Barnardo has three score or more boys at work at tailoring, shoemaking, brushmaking, carpentering, and wood chopping, and the Children's Home in Bonner-road is also represented by a large contingent engaged in printing, folding, and some other of the trades already enumerated. The children of the Home in Bonner-road are also trained to sing and play on various musical instruments by the organist and bandmaster, Mr. R. Heath Mills, and give concerts during the exhibition. Even more interesting than the child-workers are the blind folk from the Association for Promoting the General Welfare of the Blind, now having its head-quarters in Berners-street. At the large stall occupied by the Association a number of blind people may be seen at work daily, and to those who have not seen them enjoying a bonfire and letting off fireworks the spectacle of blind brushmakers and basket-makers is touching indeed. The patient man sitting on the ground and making a basket diligently and skilfully admits that he can do more at Berners-street when he has everything around him, and knows every inch of the ground; but he plaits away swiftly, despite his change of locality. Like the basketmaker, the brushmakers keep so steadily at work that it is difficult to realise that they are entirely deficient in the most valuable sense of all. A couple of women are standing up and plaiting sash lines, a work in which they seem quite proficient, and at the end of a stall sits a man chopping up firewood at a great pace, as if reckless of fingers, which, he declares, are not in the slightest danger. There is great "dash" about the poor blind man who walks to and from his work with a confidence and speed which astonish even those accustomed to the ways of blind folk generally. The valuable association under whose care these poor people are working has not yet sent to the Agricultural Hall its deservedly favourite pupil—a blind deaf mute, who works at brushmaking, but it is understood that he may be expected in a few days. A bright light by day and evening at the Agricultural Hall detracts somewhat from the strangeness which affects the visitor to a blind institution just after dusk, when he finds people setting type, reading, and working at various trades while he can hardly find his way about; but the scene at Islington is nevertheless of a curiously interesting and moving character.

The *Standard*, March 11, 1881.

There is now open at the Agricultural Hall, Islington, an exhibition of what is termed "Labour Saving Appliances," and all articles for the promotion of household thrift. Upwards of 200 exhibitors from all parts of the country hold stalls. It would be impossible, save in the form of a catalogue, to go through the different departments of labour here shown to perfection. Apart, however, from the mere utilitarian objects of the exhibition, the show is highly interesting from a humanitarian point of view; for in the midst are assembled representatives of three of the most praiseworthy charitable institutions in London. The first to attract attention is the temporary work-room of that Association for the Welfare of the Blind, founded by Miss Gilbert, blind daughter of the late Bishop of Chichester, the home of which is 28, Berners-street, Oxford-street. There are not many who will pass these workshops and witness the cheerful labourers who have worked all their days in darkness, without feelings of sorrow and thanksgiving. Then there are the boys of Dr. Barnardo's Homes at their various handicrafts; and there are 50 boys and girls from the Rev. T. B. Stephenson's Children's Home, Bonner-road, who, when properly instructed in various trades, have occupations found for them at home, or emigrate to fields abroad where there is more scope for the exercise of their industry and ability. The two schools have bands of their own, which perform at intervals, doing much thereby to distract the attention of the visitors from the monotony of mechanical sounds.

Daily Chronicle, March 10, 1881.

An exhibition has been opened at the Agricultural Hall, Islington, of a great variety of articles more or less connected with the promotion of household thrift, which is the avowed

object of the originators of the show. It is quite true that within recent years domestic economy as well as the great enterprises of life have been much assisted by mechanical helps to the performance of labour, and the great object of an exhibition bearing such a broad designation as the one referred to must be to bring into something like orderly array a collection of appliances with many of which, perhaps, numbers of people would not otherwise have an opportunity of becoming acquainted. Sewing machines, washing and wringing machines, chopping and grinding machines, knife cleaners, and such like familiar instruments are well represented; and also pianos, billiard tables, tents, furniture, lawn mowers, and even coals, the latter being the kind known as the anthracite coal. A novelty which was at the Paris Exhibition is an automatic boot cleaner, the brushes being plied by machinery, the motive power of which may be supplied either by steam or hand, while there is a stocking-knitting machine. There is also, too, a valuable tree pruner—a sharp scissors-like appliance on the top of a rod—by means of which a stout branch in a twinkling may be cut as a knife cuts cheese; and there is an exhibit of a reversible perambulator, in which the seat may be turned in any direction. An instance is afforded of the strides that are being made in the introduction of steam-power by a large steam washing machine, which is alongside an immense kitchen range. A steam tricycle illustrates the application of steam to this form of vehicle. The tricycle, it is explained, can be propelled by the ordinary pedal motion, by steam alone, or by both combined, and it is easily worked without any appearance of the employment of steam. Some boy and girl inmates of Dr. Barnardo's Home and the Children's Refuge, Bonner-road, Victoria Park, are to be seen at work as tailors, carpenters, shoemakers, wood choppers, &c., while some blind men and women from the Institution of the Association for the Welfare of the Blind show the skill that the sightless may attain in chopping firewood, and making brushes, baskets, and other articles of domestic use. The exhibition remains open for several days.

The *Morning Post*, March 11th, 1881.

The historian of the future who shall write the history of the 19th century will chronicle this second half of it as a period of exhibitions. Amongst these have been several valuable leviathan gatherings, but none are likely to be of so much practical value as exhibitions of specialities, such as that of domestic saving apparatus now on view in the Agricultural Hall, Islington. Here we have machinery displayed for cutting and buttering slices of bread, for crumbling bread, for mincing meat for sausages, &c.; for peeling potatoes, slicing cucumbers, cutting up vegetables of all kinds for soups or stews; stoves and ranges for cooking with gas, wood, common coal, anthracite, steam, &c. We have various modes of preparing tea and coffee, among which latter Branson's extract of coffee merits mention, as daily at the exhibition some hundreds taste it and pronounce it excellent. Again, we have various kinds of improved gas burners shown, and lamps of all styles and kinds. Newly-invented plans for raising and securing window sashes and doors may be inspected, window blinds, curtains, shades, &c. Stains for wood, imitations of marble, window blinds, screens, ornamental furniture, crockery, and other domestic utensils are exhibited; and the inquiring householder can inspect a bewildering variety of washing and wringing, sewing and kilting machines, cinder sifters, and other useful implements. Among these are machines for knife cleaning, fork cleaning, and one for ironing shirts. Household soaps and sanitary soaps and other appliances and preparations are exhibited, as well as specially-prepared salt for preserving meat, eggs, &c., and medicaments for rheumatic and other affections. Frost-proof joints for water pipes are shown, and as additions to home comforts, clocks, watches, and musical instruments have a place. One machine, which created much interest, is for playing the piano. The tune is cut on cards somewhat in the mode of preparing patterns for a Jacquard loom, and the performer merely turns a handle, the perforations in the card allowing of the motions needed to strike the proper keys. As a portion of the house, or, at least, as being of it, if not in it, the garden is not forgotten, and lawn mowers, garden seats, ladders, garden pumps, &c., are displayed for the benefit of those who have some ground to deal with; and as means for the preservation of health we have gymnastic apparatus and a host of bicycles and tricycles, which may be tried in the gallery, where a capital course has been arranged. On the ground floor is shown a tricycle driven by a very pretty little steam-engine. Burroughes and Watts and other makers contribute an assortment of billiard-tables, and there are not wanting some elegant articles of ornamental furniture.

Among the most interesting displays of the exhibition are the stalls occupied by the boys of Dr. Barnardo's Homes, Mr. Stephenson's Children's Home, Bonner-road, and the Association for Promoting the General Welfare of the Blind, Berners-street. At the first named a number of boys are engaged in carpentry work, brushmaking, tailoring, shoemaking, and printing. At the second similar operations are carried on, and at the third several of the blind, male and female, are occupied in basketmaking, brushmaking, mat and blind making, and other work suited for them. At all these stands the visitor cannot fail to note the air of cheerfulness and content apparent on the countenances of the workers, and around them are goodly displays of their work, testifying to their own abilities and to the care exercised in their instruction. Among the blind workers is a man who has the misfortune to be also deaf and dumb; nevertheless he is a good basketmaker.

The account of the exhibition would be wanting without a special reference to the catalogue, which affords abundant information, and has been very carefully compiled. Prefixed to it are several interesting and instructive essays on subjects connected with the exhibition, as well as a plan of the Agricultural Hall, with the numbers of the stalls marked on it. The whole has been capitally got up by Messrs. Charles Messent and Son. The exhibition will remain open till the 17th inst., and will be found well worth a visit.

The *Echo*, March 9th, 1881.

An exhibition has been opened at the Agricultural Hall of domestic labour-saving machinery and of articles intended for the promotion of household thrift. Even in the very arcade leading to the Hall the visitor may form a pretty shrewd guess, by the show of elegant garden lounges and tents, &c., tastily arranged on either side by the Panklibanon Company (56, Baker-street), that there is something more interesting on view inside than rows of cart-horses or pigs specially cleaned for the occasion. Nor would he probably be much disappointed, for scattered round the immense hall, or rather ranged in well ordered rows, are specimens of almost everyone of those improvements—as admirable in their way as the inventions of the steam-engine, the telegraph, or the printing press—which together have made such a change in our domestic life during the present century. How great the contrast between the domestic life of to-day and of a hundred years ago is admirably described by a "Lady of the old school," whose somewhat comical sketch graces the opening pages of the catalogue. Nothing, perhaps, would astonish the Mrs. Jill of that period more that a sight of the modern sewing machine or clothes washer. Concerning the former nothing more need be said than that the well-known firms were well represented, a new Wilson oscillating shuttle machine, by the way, being exhibited by Messrs Bradbury and Co. (14, Newgate-street), and that a full-length portrait of Howe, the ill-used inventor of the sewing machine, smiled down from one of the stalls on the busy scene below. Of the numerous patent washers the cheapest seemed to be the "Dolly," a combined washing, wringing, and mangling machine, warranted to wash sixty collars or twenty towels in three, and five shirts or one blanket in five minutes, just introduced by Messrs. J. M. Bell and Co., 494, Oxford-street, and the price of which is considerably under £4. The "Home" washer, exhibited by the same firm, a more expensive machine, is said to have won over 150 first prizes since 1868, and never to have been beaten once. Close by are some very pretty crystal and majolica fountains, aquariums, and fern cases, exhibited by Messrs. Kessel and Son, 11, Southwark-street, Borough, and suitable for front windows and for side-board or table decorations, the price of the cheapest aquarium—£1—bringing it within the reach of almost everyone. A stroll round the building will soon reveal the improve-

ments effected in the arts of lighting, warming, or ventilating our houses. Some of the best of the heating stoves on view, perhaps, are those exhibited by Messrs. Wright and Butler, of Birmingham, whose patent portable "Eclipse," "Premier," and "Cheerful" petroleum stoves are said to warm a room without any of those injurious effects so often resulting from the use of gas. In the "Cheerful" stove the flame is reflected through glass, and as it, as well as the others, requires no chimney or flue, and burns all night without attention, it is in much request for invalids. The same firm exhibits a combined heating and cooking oil stove, which gained the highest award at the Cape Exhibition in 1877. Billiard tables and pianos for the drawing-room, knife-cleaners for the kitchen, lawn-mowers, hammocks, and tents for the garden, and carriages and bicycles for out doors—all were on exhibition; and the thrifty householder who intends furnishing his house could not do better before purchasing than pay a visit to the Agricultural Hall. Besides looking at the stalls, the visitor may see basket and mat-making and other trades carried on by blind operatives in the centre of the building, and may hear sweet music discoursed by bands from Dr. Barnardo's Boys' Home, Stepney-causeway, and from Mr. Stephenson's Children's Home, Bonner-road.

Illustrated London News, March 11th, 1881.

At the Agricultural Hall, Islington, there is an excellent exhibition of domestic labour-saving appliances and articles for the promotion of household thrift. A deeply interesting spectacle is to be witnessed. Blind men and women from the Institution for the Welfare of the Blind, in Berners-street, are there chopping fire-wood, making brushes, brooms, baskets, sash-lines, &c. This institution was founded by Miss Gilbert, the blind daughter of the late Bishop of Chichester.

Reynolds's, March 13th, 1881.

Not the least interesting stall at the exhibition of "Domestic Labour Saving Machinery," together with articles intended for the promotion of household thrift, is that remarkable enclosure where are to be found, diligently working, a number of clever blind mechanics. These industrials are from the Institution of the Association for the Welfare of the Blind, the head-quarters of which are 28, Berners-street, Oxford-street. Earnest groups may be seen throughout the day watching those evidently cheerful and certainly active workpeople. They carry on various trades, the most startling of which is, perhaps, that of chopping and bundling fire-wood. The chopper goes startlingly near the fingers of the operators, who are certainly the least concerned of all present at the appearance of danger which results from the combination of the staring unseeing eyes and the gleaming instrument. The most valuable product, however, offered for sale at this attractive stall is the hand-plaited sash-line, manufactured by women, and which is warranted to last quite six times as long as the ordinary material. Brush-making is another occupation very successfully followed by these good people whom it were almost erroneous to call afflicted, they are so cheerful and even happy. There are several very pleasant and even touching industries carried on at this exposition. In one direction the spectator marks Dr. Barnardo's destitute children hard at work making boots—and very good ones, too—brushes, and other articles, while a collection of young carpenters flourish their planes and saws very dexterously. In another direction some of the inmates of an orphanage for boys are making well-sewn clothes. But throughout the exhibition now taking place at Islington, and which remains open during Monday, Tuesday, Wednesday, and Thursday of next week, no point excels in attraction that occupied by the pleasant blind folk. The institution entirely depends upon the demand there is for the articles manufactured, and it is therefore pleasant to know that it has this year again obtained a large Government contract for 40,000 brushes. Last year the institution received Mr. Richardson Gardner's bequest of £10,000, and with that and the permanent premises fund there is a hope that when the Berners-street lease lapses much larger premises may be secured, and a larger number of blind people employed than can at present be provided for. The "blind" work is as good and as cheap as that made and sold by the sharpest sighted people, and customers therefore will not lose by their patronage, while the sightless will gain by it. The institution was founded by Miss Gilbert, who has a very active lieutenant in Miss Frances Martin. The spectator, indeed, leaves this sightless stall at the Agricultural Hall with a vivid sense of how little many of us comparatively do with both eyes quite active, while these patient, cheerful souls, with the help of their good friends, are able to do so much, and contribute their share to the work of that society from which they are shut out by reason of their terrible affliction. The institution must have the best wishes, and should have the active support, however little, of all who delight in seeing affliction cheerfully met and industry applied where at first sight there is so little promise of that success which has followed the formation of the Berner's-street Association for the Welfare of the Blind.

The *Citizen*, March 12, 1881.

During the present week an interesting exhibition of labour-saving appliances suited to household use, together with a varied array of other machines, has been held at the Agricultural Hall, Islington, and will continue open during next week. The stands afford a striking lesson of the great strides which are being made in the direction of superseding ordinary domestic labour by clever mechanical inventions. The attractions of the exhibition are heightened by the interesting operations of men and women from the Institution of the Association for the Welfare of the Blind, 28, Berners-street, founded by Miss Gilbert, the blind daughter of the late Bishop of Chichester. These clever workers are to be seen making brushes, baskets, sash-lines, and chopping firewood, in which, considering their physical disability, they are marvellously expert. The boys and girls from Dr. Barnardo's Home are also watched with interest, as they give practical lessons in carpentering, tailoring, shoemaking, and other industrial pursuits, in which they find friendly rivals in the inmates of the Children's Refuge, Bonner-road, Victoria Park. Nor are more artistic attractions wanting in the Hall, as each evening the proceedings are relieved by pianoforte recitals, while the brass band of the Home, of which the Rev. T. B. Stephenson is the principal, daily give selections in really telling style, and to the general delight of the visitors.

The *Critic*, March 2nd, 1881.

A very interesting exhibition will be opened on Monday next at the Agricultural Hall. Domestic labour-saving appliances and all articles intended for the promotion of domestic thrift. A special feature of this exhibition will be articles made by the blind. How the greatest of human afflictions can be to a certain extent alleviated, and lives of darkness rendered useful and in many instances enjoyable, will be illustrated by the little workers in the beneficent institutions for ameliorating the condition of the blind.

Hackney and Kingsland Gazette, March 14th.

An exhibition which possesses attractions for not only those more intimately acquainted with household duties, but also for those who delight in novelties and can appreciate the inventive genius of their fellow man, is now on view in the Agricultural Hall, Islington, and although (as with other exhibitions held here), the "show" is not entirely confined to that which its name implies, viz., "Domestic labour saving exhibition," still the extraneous exhibits tend rather to enhance than to detract from the scene. As time advances genius develops, the consequence being that so many surprises have already been given in the mechanical world that one is prepared to go to such an exhibition quite ready to look upon previously considered impossibilities or unthought of mechanisms with comparative quiet, always, of course, giving honour to the men whose brains solved the various problems.

With such an enormous number of exhibits our space forbids but a casual glance, but, taking the stalls promiscuously, we come to one which demonstrates that heat can be produced by burning air, and which will be admitted to be a very inexpensive fuel, whilst further on a nursery gymnasium, fitted with all conceivable appliances for developing the infantine biceps, is seen. Then we come to what *is* indeed a labour-saving appliance in the form of a clever piece of mechanism

to clean boots, the evolutions of the machine as it twists and turns the boots either in removing the dirt, blacking, or polishing, being interesting in the extreme. Knife cleaners are in abundance, but "something new" is shown in a capital contrivance for cleaning forks. Then we come to patent bedsteads which do almost everything but give a guarantee against the baby crying or *pater* being awakened, whilst again we see a novel contrivance for pruning trees without the aid of ladders or the extremely hard work of using the hand knife. All the large makers are represented in the many kinds of sewing, knitting, &c., machines; whilst patent ventilator, cork garden ornament, washer and wringer, curtain tightener, and numerous other manufacturers are also "placed."

Perhaps *the* features of the show are the demonstrations of various kinds of labour by the inmates of Dr. Barnardo's and the Rev. T. B. Stephenson's Boys' Homes and the Berners-street Asylum for the Blind. The lads of the Homes were busily engaged in carpentering, shoemaking, tailoring, printing, wood sawing and chopping, brush making, boot cleaning, &c., all of which of course is immeasurably better for their present and future welfare than wandering half-famished and insufficiently clothed about our streets and serving an apprenticeship to crime which, as a rule, proves most disastrous to them. The operations of the blind persons were also watched with interest, and their precision of workmanship subject for wondering comment.

Freemason's Chronicle, March 12, 1881.

On Monday, at the Agricultural Hall, Islington, was opened what must certainly be described as a novelty in the way of exhibitions, and, as it will remain open till this day week, we think our readers will be interested if they visit the Hall. They will there see collected together every variety of implement in every-day domestic use. There will be found the latest and most approved inventions in sewing machines, washing machines, knife-cleaners, heating and cooking stoves, and in every imaginable kind of domestic appliance. There are likewise included many displays of articles in constant use among all classes of householders, such, for instance, as the mats, baskets, &c., which are the handiwork of blind operatives—this particular collection being placed in the centre of the building. There are, too, others which find favour with residents in suburban districts, such as lawn-mowers and tents, together with bicycles for the athlete, and carriages, and, above all, billiard tables for the wealthy. One stall, in particular, attracted our attention, that of Bro. Edwards, of the Kingsland-road, who, by the way, is on the eve of moving into larger and more commodious premises in the same neighbourhood, so rapid has been the increase in his business during the last few years. Bro. Edwards exhibits three well-made billiard tables, besides bagatelle and other tables and apparatus of a cognate character. All these, with the balls, cues, &c., &c., are a credit to the establishment by which they are manufactured. Our attention was especially attracted by an oak cabinet, so constructed as to support a roller marking board for billiards, and a pool marking board for twelve players, having slate in centre, and a pool money till with glass front; while at the same time in the drawers, &c., &c., is provided ample accommodation for wines, cigars, &c., &c. This cabinet combines most admirably the useful with the ornamental, and no better specimen of Bro. Edwards's manufacture could, we think, have been shown. We were also much pleased with the group of pianos sent by Mr. Justin Browne, of 237 and 239, Euston-road. They were handsome in appearance, and the tone left nothing to be desired. Moreover, they have the further advantage of being comparatively modest in price.

The *Ironmonger*, March 12, 1881.

On Monday an exhibition of domestic labour saving appliances was opened at the Agricultural Hall. The exhibition has been carried out under the auspices of Mr. Messent, a gentleman well known in connection with certain undertakings, and the name he has selected is well calculated to draw the general public to it in large numbers, and as it is to remain open until the evening of the 17th, there will be plenty of time, let us hope, for promoter and exhibitors to recoup themselves. Turning to the exhibits, we are bound to say they consist, to a large extent, of those that we are accustomed to see, more or less, at every exhibition held in this building, and there are many articles shown in which our readers would feel no interest from a trade point of view. Amongst the general exhibits, Mr. George Kent, of Holborn, held the *place d'honneur*, which is now tacitly admitted to be the centre of the hall. Here is built up a massy square, edifice composed mainly of his celebrated knife machines, of which some dozens are used in the erection, interspersed with all kinds of domestic labour saving utensils, with which Mr. Kent's name is now associated, and which naturally attracts considerable attention. In this line of business, though, of course, on a much smaller scale, we have the exhibits of Messrs. Spong and Co.; Ellis, Fleet-street, who, in addition, sent his portable Turkish bath and "Facile" bicycle, which we described on a recent occasion; Lyon, Windmill-street, Finsbury; Davis and Co.; and Messrs. Hood and Son, Hatton-garden, who have an independent tasteful erection, with an excellent assortment of the "Lady-help," "Despatch," and "Perfection" machines.

Washing machinery is rather extensively exhibited, although we miss the name of Bradford and Co. amongst them. The largest display is that of Thomas and Taylor, of Stockport, Manchester, and London, who exhibit their well-known "Eccentric" washing machines, both for steam and hand power, with wringers, mangles, &c., of various sizes, also the Royal prize "Eccentric" churn and other dairy utensils.

The Household Washing and Maugling Machine Company, Devonshire-street, E.C., have an assortment of the machines bearing this name; J. M. Bell and Co., Oxford-street, W.C., are present with the "Home" washer and accessories; the Anglo-American Laundry Supply Company, Fann-street, Aldersgate-street, show the "Agitator" washing machinery, and their patent shirt, collar, and cuff ironing and polishing machines, heated by gas; Thomas Green and Son, Leeds, and Blackfriars-road, have their patent washing machines, for both steam and hand power, mangles, wringers, &c.; Harper Twelvetrees, with "Villa" washer, "Cottage" mangles, &c.; and Wilding, on Messrs. Ewart and Sons' stand, with his "Swift" washer.

Messrs. Wood and Parkinson, of Stockport, who have secured the services of Mr. Forty, well known as the late representative of Mr. Wilding, the patentee of the "Swift" washer, make a good display with their "Duplex" and other mangles, wringers, wash-tubs, &c., together with their "Segment" washer. This little utensil has recently received an important improvement, having had another roller added to the movable quadrant, and the metal ends lengthened in the form of drop-pieces or ears, which allow the water to run down them into the tub, and entirely prevent splashing. Bennett and Hodgson's "Float" washer is also exhibited by the firm, and a hexagon churn, in which the screws securing the lid are pivoted on a circular base, and as soon as the nut is loosened by one or two turns, can be turned over and the lid removed without the necessity of taking them off entirely.

Messrs. Brown and Co., Piccadilly, show the Leeds gas-cookers of Messrs. Beverley and Wylde, and other small gas-stoves; Mr. Harry Hunt, of Newington-green, makes an attractive display with the "Crown Jewel" heating-stoves that have received previous notice at our hands, and Norton's celebrated "Stanllyd" vein anthracite coal, for which he is the sole London agent; Ritchie and Co., St. Swithin's-lane, with a large assortment of their patent lighting, heating, and ventilating stoves for gas and oil; Mr. Charles Portway, Halstead, Essex, "Tortoise" slow combustion stoves; Brown and Green, Luton, and Bishopsgate-street, "Gem" cooking stoves and ranges, ventilating and slow-combustion stoves; the Wilson Engineering Company, High Holborn, with their patent ranges; and D. and T. Robertson, Sauchiehall-street, Glasgow, and 120, Cheapside, patent ranges and Robertson's patent Napierian coffee machines.

The Eagle Range and Foundry Company, of Lozells, Birmingham, and 168, Fleet-street, London, have their usual assortment of cooking-ranges and a new square slow-combustion stove with fire-brick casing. They also show a new large-sized portable griller, which can be placed in front of an ordinary fireplace, an ordinary smoke-pipe conveying the pro-

ducts of the fire to the chimney. This is easily taken to pieces and made removable should it not be required in summer. We understand Messrs. Spiers and Pond are adopting these for many of their country station refreshment-rooms. Messrs. Chorlton and Dugdale, of Manchester, exhibit specimens of their patent "Sunlight" cooking-stove, to which they have added an improved hot-water apparatus. The ordinary boiler, usually connected with a cooking-stove, is here dispensed with, but in its place, and fixed at any convenient part of the kitchen, is a cylinder boiler, and from this is run a coil which passes through the stove, and is again attached to the cylinder on the other side, forming the in and out let pipe; there is also a draw-off pipe for supplying hot water to the kitchen, &c. Above the cylinder the arrangements for supply from the cistern are the same as in other heating apparatus. The chief advantage this plan appears to give is complete immunity from risk of explosion, for so long as the pipes above are not frozen, the cylinder must be always full, and when freezing takes place, and all the water is drawn from it, no danger can accrue, for the cylinder being away from the fire will quickly become cool, and the fresh water, whenever thawing takes place, comes into a cold reservoir instead of to a heated boiler, the coil, to prevent danger from cold water passing through heated pipes, being removable in a few minutes. Should no other objection interpose, this idea appears to point to the discontinuance of boilers in our ordinary kitchen ranges. The firm also exhibit their patent "Excelsior" spring mattress and chairs in varied forms.

Of gas-engines there are two makers present, Mr. J. E. H. Andrew, of Stockport, and Messrs. Crossley Brothers, Manchester, whose machines are too well known to need description here. Instantaneous water-heaters are exhibited by Mr. Wm. Hellier, Duke-street, Grosvenor-square; by Messrs. Ewart and Son, of Euston-road, whose "Crown" heater has been altered to enable a smoke-pipe to be added to it, to carry off the products from the gas, and by Mr. B. W. Maughan, of Cheapside, with his "Geyser."

Of ventilating apparatus we have Messrs. Robert Boyle and Co., who, as usual, show to advantage, having an assortment of their self-acting air-pump ventilators for various purposes, including soil-pipes, drains, and sewers, and models and plans of their improved system for ventilating steamships and public works by means of boiler-furnaces; Messrs. Kite and Co., Chalton-street, Euston-road, who, among other things, have a little structure showing the roof of a stable or cowhouse with their *louvre* and valve ventilator; J. M. Taylor, Tuileries-street, Hackney-road, "Eclipse" chimney-top and ventilator; and Messrs. Ewart and Son, with their "Empress" ventilator. Electric bells in their varied modes of appliance are shown by Messrs. Gent and Co., Leicester, and Mr. Zimdars, of Gray's-inn-road. Mr. Humphreys, of Albert-gate, Knightsbridge, shows a good specimen of his portable iron houses. Messrs. Nettlefold and Son, High Holborn, make an excellent display of agricultural and horticultural tools, their wooden coal-vases, "Coventry" lawn-mowers, &c., and the Standard Manufacturing Company, Derby, are present with their "Standard" tree-pruner, which has before been mentioned in our pages.

The Silicated Carbon Filter Company have a handsome stand, on which are displayed their numerous filters; David Hart and Co., Wenlock-street, City-road, have a good assortment of weighing machines; Mr. Hindley, Bourton, Dorset, shows a variety of his well-known horizontal and vertical engines; Mr. Wagstaff, of Dukinfield, Manchester, shows his upright tubular saddle-boilers, which appear to be made on economic principles; and Messrs. Davis and Co., Kennington-park-road, have a varied assortment of barometers, thermometers, lactometers, saccharometers, levels, microscopes, &c. Messrs. Stott and Co., Oldham, are present with their patent gas-governor, and a new burner-governor, which is said to be very effective, and which, with an electro-gilt holder for the globe, is sold at a very low price. The Peckham Gas Burner Company also show a variety of gas-burners, gas box-irons, cooking-stoves, &c. Mr. Robert Adams, Great Dover-street, has a well-filled stand of his specialties, including his patent fanlights, compensating hinges, new patent safety window, which can be instantly changed from vertical sliding to swinging sashes, new Venetian blind-holder, &c. The Keighley Timber and Saw Mills Company show their patent sashes, and Carter and Aynsley, of Bishopsgate-street, have Melville's patent sashes on view. The two last-named appliances have been fully described in our columns on a former occasion.

Building and Engineering Times, March 12th, 1881.

On Monday last the series of metropolitan exhibitions for the present year fairly commenced with the opening of the above in the spacious hall at Islington, and as this is the first of its kind which has been held there, the promoters may be congratulated on the considerable measure of success which has attended their efforts to bring together the latest novelties in the way of labour-saving machinery and articles intended for the promotion of household thrift. The catalogue is a creditable production, and it contains the descriptive matter dealing with the entries of 193 exhibitors. In some prefatory remarks allusion is made to the comparatively short period which intervened between the issue of the prospectus and the inauguration of the undertaking, a reasonable hope being expressed that with longer notice the next exhibiton of this particular class will be even more successful than the present one. Up to the 19th inst. residents in London and our country cousins will have the opportunity of judging how far modern manufacturers have simplified the processes connected with the various requirements of domestic life. Time and labour have grown to be of greater value in the hurry and rush of nineteenth century existence, and the readiest means of conserving both has been the stimulus to a host of inventors.

Before passing on to a description of the principal exhibits which will have a special interest to our readers, some remarks seem to be called for on the part which philanthropic feeling is doing to provide suitable and remunerative employment for the otherwise destitute and afflicted classes. Among the many objects of interest at this comprehensive display, is the work which is being done before the onlookers by male and female blind operatives under the auspices of the Association for Promoting the General Welfare of the Blind, a society which enjoys the patronage of Her Majesty, half the bench of bishops, the Premier, and of course that of the present Postmaster-General. The chairman of the executive committee, Admiral Sir Edward Sotherby, K.C.B., informs us that this admirable institution owes its origin to Miss Gilbert, daughter of the late Bishop of Chichester; and this lady, who is herself blind, founded the association for the purpose of teaching various trades to the adult blind, with the ultimate object of employing them in the workshops of the association and at their own homes. Eighty-seven men and women are thus provided with remunerative labour, and some of them may be seen here engaged in the manufacture of brushes, baskets, sash-lines, fancy woodwork, &c., all of which are being turned out in such a way as to intensify the natural sympathy which all must feel for those who work in a kingdom of darkness. Funds, we understand, are needed to extend the society's operations. Visitors will turn from this sphere of active labour, to where numerous boys and girls from Dr. Barnardo's Homes for Friendless and Destitute Children are busily employed in useful industries; and close by again, some of the boys from the Children's Home at Bonner-road, Victoria-park, are to be seen at various pursuits under qualified instructors. Several of these boys—who, by the way, are apprenticed to the different trades for four years—were working at a carpenter's bench on the occasion of our visit, and the specimens of carpentry in course of construction would do credit to any joiner's shop. The united brass bands of these institutions perform selections of popular music throughout the day, under the *baton* of Mr. R. H. Mills, giving proof of careful training. Enough has been thus said in a general way to show that the Exhibition is well worth a visit.

Bazaar and Mart.

On Monday last the first London exhibition of domestic labour-saving appliances opened at the Agricultural Hall, Islington, and brought together numerous exhibits, ranging from buttons and bell-pulls to steam and gas engines. Although the show opened at ten in the morning it was some hours before the whole of the entries were placed in their positions,

and up to eight o'clock p.m. the hall presented anything but a finished appearance, and as a general catalogue was unobtainable, we are unable to enter upon a detailed description. The whole of the exhibits are on the ground floor, thus adding to the comfort of visitors, the galleries being reserved as a trying ground for bicycles and tricycles. Stands in the centre of the hall are devoted to tailoring, bootmaking, brushmaking, carpentering, and woodchopping, carried on by boys of one or other of the Boys' Homes, while a place is also set apart for girls, who are taught the book sewing and folding. Some of the boots and brushes made by the boys presented a very finished appearance. The Association for the General Welfare of the Blind have also a stand, where the operatives work at basket-making, &c.

The *Warehouseman and Draper*, March 19, 1881.

This exhibition, which opened on the 7th, is to be continued yet another week. We must therefore take it for granted that the promoters are congratulating each other on the success attending their efforts to interest the general public by a display of domestic labour-saving machinery. We believe that knife cleaners, boot cleaners, sewing and knitting machines, and washing and mangling machines, may be legitimately included in this category, but as for all the other exhibits, we fail to see the analogy—take, for instance, chairs, garden seats, stoves, bedsteads, mattresses, show cases, corsets, waxwork, cradles, lamps, and clocks. It must not be understood, however, that we are taking exception either to the introduction of goods that are not labour-saving, or to the poor blind folk who are actually engaged with their hands in the manufacture of baskets, brushes, sash-lines, fancy woodwork, &c., for visitors appear to be equally entertained with these, also with the boys and girls from Dr. Barnardo's Homes for Destitute Children, and the boys from the Children's Home at Victoria Park; they are all engaged in the duties that have been taught them at their respective schools. Indeed, the crowd is always the thickest around the workshops of the working community, whether of the blind or of the little carpenters, tailors, shoemakers, printers, &c.; and, let us add, they turn out their work in a very creditable way. The united brass bands, too, of these institutions constantly enliven the time by playing a selection of popular music.

THE BICKFORD AUTOMATIC FAMILY KNITTER.

It is intended to be eminently and emphatically a family knitting machine, designed to meet completely a known and long-felt domestic want. Its practical utility in the manufacture of substantial hosiery, in which it stands without a rival, is, of course, its chief recommendation. But this is only one of the multiplied uses to which it may be applied. There is scarcely an article of fancy apparel or household adornment that cannot be made upon it with perfect facility and ease. The taste and ingenuity of the operator is the only limit to the variety of style and quality of the work it may be put to do. There is scarcely any kind of female industry which in so large a degree combines recreation with work, pleasure with profit, occupation for the mind without weariness of the body, and utilises the small intervals of time that otherwise would be spent in idleness, as the peculiarly domestic employment of knitting. The frugal and industrious matron will busy herself at odd times and spare moments at nimbly plying the needles in making stockings, mittens, and other articles of wearing apparel for the comfort of the family; while the lady of wealth will occupy her leisure in the more elaborate fancy crochet work, and find amusement in devising some new form of stitch to apply to novel articles for ornamental use.

The old methods, however, are too slow for real economy, and the necessity has arisen for a more rapid method of producing useful and ornamental knit-work by mechanical means, which will, in an equal degree, combine pleasure and profit without weariness. This result is completely attained in the improved and perfected Bickford Knitting Machines.

The machine now manufactured by this company exhibits the very finest workmanship, and is designed to meet every want of the household.

It is so arranged that the work is easily and quickly set up, and will make any stitch, plain or fancy, that can possibly be knit by hand. It will also narrow or widen (knitting a flat web of any width with selvedge on each edge) to form any shape or garment required (including stockings and socks of every size and material, with heel and toe complete,) using from seventy-two to two hundred needles.

Thus the following articles, with scores of others, may be readily produced upon it: Socks, stockings, mittens, leggings, wristlets, gloves, scarfs, tidies, fringes, slippers, sashes, capes, drawers, undershirts, skirts, trimmings, tuftings, toilet and lamp mats, skating caps, smoking caps, cushion and ottoman covers, suspenders, looped trimmings, carriage and door mats, muffs and collars, table and piano covers, hoods, ladies', gentlemen's, and children's underwear of every kind, and many other articles, with either close or open work, of various sizes, with either coarse or fine yarn of wool, cotton, linen, or silk.

Any of the above articles may be beautifully varied in an infinite variety of designs in form, colour and stitch, according to the capacity, skill and taste of the operator. Stockings and other articles knit on this machine can be made in any desired size or shape, and do not require to be stretched and moulded on "forms," as in the case with goods made on poor imitation machines.

As the yarn is not strained at all in knitting it may be raveled out and knit over again, fifty times if desired.

A great advantage of this machine is, that cylinders of various grades of fineness will fit the same machine, adapting it to all kinds of work, from the coarsest to the finest, thus obviating the necessity of buying two or more entire machines to work on very fine or coarse yarn. They also have a new device for taking up slack yarn, in knitting heels and toes and all work where one knits backford and forward, which is self-acting, in connection with the spring take-up.

The machine knits socks in two ways. By one method the toe is formed first complete; the foot and heel next complete; then the leg is knit, making a sock "complete," except to bind off the top. No heel or toe to close. By the other method the leg is knit first, the top being bound off or finished in setting it up, the heel is turned and completed, the foot and toe knit, and when it comes from the machine has to be closed one-half of the diameter of the foot. Double heels can be knit to all socks if wanted.

The agents for England for this machine are Messrs. R. S. Daville and Co., 46, Wood-street, Liverpool.

EMBEZZLING THE MONEY OF A SEWING MACHINE MANUFACTURER.

John Sharman, commission agent, Overstone-road, Northampton, was charged on remand recently with fraudulently and feloniously embezzling several sums of money, amounting to £15 17s. 6d., received by him on account of his employers, Messrs. J. and T. Wilkinson, sewing machine dealers, Wellingborough, about six months since.—Mr. Andrew prosecuted. Mr. C. C. Becke defended the prisoner.—Mr. Andrew said the prisoner would be indicted on two charges—the first for having embezzled three sums to the amount of £13 18s., and further as the clerk and servant of the firm for having falsified his accounts. The prisoner went into the employ of the firm at Wellingborough about three years previously. It appeared that twelve months last Christmas prisoner was detected as having applied several sums of money to his own use, and was to have been discharged, but owing to his pleading, it was

agreed that he should have the charge of the depôt at Northampton, the amount of his defalcations to be deducted from his commission. Accordingly Sharman was sent to Northampton. The agreement which was signed was somewhat varied. He was to receive 10s. regularly as salary, and he was also to collect money from sales which had been effected, and to make weekly balance sheets. On account of a man named Richardson the prisoner received £5 8s. He then made false entries, and only returned £3 10s. On account of a Mr. Harrison the amount of £6 10s. had been received by prisoner, and he had only accounted for 10s.; and in the case of Miss Smith he received £7 and only accounted for £1. Last Christmas Mr. Wilkinson took stock, and on examining the ledger he found that a Mr. Eyre had had goods debited to him to the amount of £11 6s. 4d., whereas Eyre only owed £7. Mr. Andrew said that that was done because the goods were not in the shop, and consequently prisoner had to book the goods sold to some one to make up the balance of his stock. Prisoner had received from March to January the sum of £60 8s. 7d. on account of sales and commission, and the salary due to him of £28 7s. 6d. was to be deducted from his previous defalcations.—John Wilkinson, a partner in the firm of Wilkinson and Co., said the agreement produced was that signed by the prisoner, and by it he was to act as manager, clerk, and traveller, and to receive commission and salary. The commission the prisoner had received was 7½ per cent. on machines and 5s. per cent. on silks. The salary amounted to 10s. per week, with house, coal and gas. Prisoner was to give the whole of his time to the work of the firm. Prisoner had to keep a cash book, ledger, and a machine ledger, and had to make a balance-sheet, which was to be sent to Wellingborough every seven days, with the amount of cash received and goods sold. In the cash book there was an account to the name of Thomas Richardson. There was £1 paid on June 19, 1880. On July 22, 1880, Mr. Richardson paid another £2, and on December 2 another 10s. was debited to Richardson. All the entries were in prisoner's handwriting. In the ledger £3 10s. was credited to Richardson. In his weekly balance-sheet prisoner had given credit to Richardson for £3 10s., and that was the whole of the money he had credited Richardson with. In the cash book there was also 10s. entered as received from Robert Harrison. Two sums of 5s. and one of 10s. were entered in the books as being paid by Miss Smith. In the silk ledger the name of Mr. Eyre, of Long Buckby, to the date of January, 1881, appeared, and he was charged with 3lbs. of 18 yellow silk at £3; 3lbs. of 20 black £2 16s., 3 dozen of thread 9s., and repairing machine 15s. The counterfoil cheque book agreed with the entries. To the account of Frederick Muscott, Long Buckby, to January 12, was entered 2lbs. of 18 yellow silk £2, 2lbs. of black silk, £1 17s. 4d.; three dozen of 12 thread 9s.; making a total of £4 6s. 4d. To the account of William Muscott, of Long Buckby, was entered 1lb. of 18 yellow silk, £1; 3lbs. of 20 black silk, £2 6s. 0d.; three dozen of thread, 9s., making a total of £4 5s.; and all the amounts described agreed with the duplicate cheque book. The prisoner came to manage their business in Northampton in March last, having been transferred from Wellingborough.—By Mr. Becke: There was a sum of about £28 17s. 6d. outstanding to prisoner for commission on machines sold, he having 10s. for commission on every boot machine and 5s. on every hand machine. He could not tell how many machines the prisoner had sold since his engagement.—(Prisoner: 248).—The prisoner had not sold anything like that number. In his (witness's) ledger the prisoner was debited with every machine, but only as manager. All machines sent to the prisoner were invoiced direct to him, and the invoices entered into a book. They were really debited and credited to the Northampton depot. Witness visited Northampton frequently, and could look at the books whenever he pleased. The cash was sent to witness by carrier. When they took stock at Christmas they found a deficiency, and that the prisoner had had more goods than rendered in his balance-sheet. He did not then enter into an arrangement with the prisoner to pay the deficiency off in 10s. a week. The prisoner offered to do that, but he did not accept it. An agreement in writing, to the effect that such an arrangement should be carried out, was prepared by their solicitor, Mr. Heygate, at Wellingborough, but was never signed. The prisoner and witness went to the solicitor's office to have the agreement prepared about the middle of February. One of the terms of that agreement was not that he was not to talk about the matter. The prisoner did not refuse to sign the agreement because witness had been talking about the matter. The prisoner did not meet him according to promise to sign the agreement, and as he had not signed and went away he applied for a warrant for his apprehension.—Re-examined: When the agreement was talked about he had no idea that the amount of defalcations was so large as it was. The letter produced, dated March 16th (the day the prisoner surrendered), was in the prisoner's handwriting, and asked the firm to deal leniently with him for the sake of his wife.—Thomas Richardson, living at 4, Ecton-street, Northapmton, said that he purchased, on the 19th June last, a sewing machine from the prisoner for £7. Witness paid £1 down, and the remainder, £5 6s. (14s. having been allowed as discount), on the 22nd day of July. He received the receipt produced from the prisoner. Witness denied paying prisoner the various sums which were entered to him by prisoner on the 22nd July and on the 2nd December.—Frederick Barham said he acted as collector and canvasser to Messrs. Wilkinson. He had a conversation with prisoner having reference to the machine purchased by Richardson, in consequence of being instructed by Messrs. Wilkinson to collect and examine all the prisoner's books. He asked prisoner where the machine in question was, and he said it was not at Ecton-street, but at Ecton. He subsequently went to Ecton-street and found the machine and a bill showing that the machine was paid for.—Robert Harrison, rivetter, Bath-street, said he purchased a machine from the prisoner in August last, and the receipt produced was the one given him by the prisoner. The price was to be £6 10s. A few days afterwards he paid the £6 at the request of the prisoner, and on October 2 the remaining 10s.—Adela Smith, Clark's-yard, St. George-st., Northampton, said she bought a machine of the prisoner on the 29th September last, for which she produced the receipt. The price was £7, but she paid £6 10s. for it on the 16th Oct., receiving the other 10s. as discount. She did not pay him any sum of £1 8s. on the 28th October, or two sums of 5s. on the 18th November.—James Eyre, boot manufacturer, Long Buckby, deposed that he did not purchase any silk or thread from the prisoner as entered in the book on the 5th January, to the amount of £6 5s. He did owe 14s. 6d. at that time to the firm, which he had since paid to Mr. Barham, the collector. He did not receive any invoices of the silk or thread stated to have been sold to him, but he did receive an invoice of the 14s. 6d. which was owing for the repair of a machine.—By Mr. Adkins: There were other persons by the name of Eyre at Long Buckby, but not in the shoe trade.—John Muscott, shoemaker, Long Buckby, said he did not have silk and thread to the value of £4 5s. supplied to him from the firm in January last. He had traded with the firm for two years. There was a Wm. Muscott living at Long Buckby.—Frederick Muscott, shoemaker, Long Buckby, said he did not purchase silk and thread from the prisoner in January last to the amount of £4 6s. 4d., and no invoice had been sent to him for such goods.—This was the case for the prosecution, and Mr. Becke, in defence, said he could not disguise from himself that there was sufficient evidence to warrant the Bench in sending the case to another tribunal, and, therefore, he would not address the Bench. He would, however, ask the Bench to consider the question of bail. There was, he said, a strong reason why bail should be granted, as the case was one of matters of account, and he would want to be out to give the necessary instructions for his defence. Another point in the prisoner's favour was that he voluntarily surrendered himself, and that showed that he wished to court the fullest enquiry, and, if guilty, not to escape his punishment.—Mr. Andrew said he did not wish to oppose bail, but, if granted, he thought, after looking at the character of the offence, it should be of a substantial character.—The prisoner was then committed to take his trial at the next Quarter Sessions, bail being granted the prisoner in his own recognizances of £200, and sureties of £100 and £50. The father of the prisoner became surety for £100 and the second surety was not forthcoming at the rising of the Court.

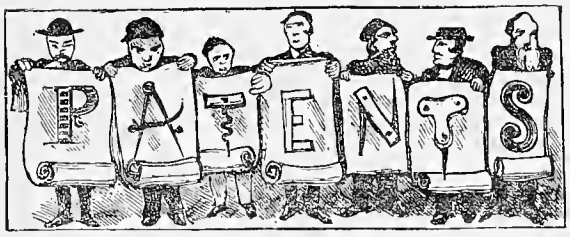
WRIGHT v. WHEELER AND WILSON MANUFACTURING COMPANY.

This was an action to recover damages for malicious prosecution and false imprisonment. The defendants pleaded reasonable and probable cause.

Mr. Edward Clarke, Q.C., and Mr. Woolf appeared for the plaintiff; and Mr. Waddy, Q.C., and Mr. Corrie Grant represented the defendants.

The plaintiff, Mr. Alfred Stafford Wright, carries on business in Shoreditch High-street, as a seller of sewing machines supplied by different firms, and the defendants are well-known sewing machine manufacturers and patentees of the Wheeler and Wilson sewing machines, possessing a manufactory in Germany and a shop in Regent-street. It appeared that a Mrs. Ann Oliver obtained a sewing machine from the plaintiff, with an allegation that it was a Wheeler and Wilson machine. Finding subsequently that it was not a machine manufactured by the defendants, she took out a summons on March 11, 1880, against the plaintiff, for obtaining £6 10s. from her by misrepresentation as to the character of the machine. The plaintiff alleged that the defendants instigated and supported the prosecution. At the hearing of the charge at the Middlesex Sessions, on April 19, evidence was given to the effect that although the machine was not manufactured by the defendants it was one known in the trade as a Wheeler and Wilson machine. The judge interposed and granted a certificate of acquittal, and the plaintiff brought the present action to recover a sum of £48, as expenses for his defence, in addition to other items.

The jury gave a verdict for the plaintiff with £150 damages, and judgment was given accordingly.



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 531. W. S. Clark and R. Davenport, both of Manchester, for an improved clothiers' pressing and ironing machine. Dated February 8, 1881.

„ 533. W. Mickelwright, of Shepherd's Bush, and A. G. Gladwyn, of Hammersmith, both in London, for improvements in or applicable to bicycles, tricycles, and other similar machines. Dated February 8, 1881.

„ 594. H. G. H. Berkeley, of Oxford-terrace, Hyde Park, London, Student-at-Law, for improvements in bicycle and other velocipedes. Dated February 11, 1881.

„ 604. J. H. Gosling, of Southsea, Hampshire, for improvements in bicycles, tricycles, and other velocipedes. Dated February 11, 1881.

„ 638. J. H. Palmer, of Aston-juxta-Birmingham, Machinist, for improvements in bicycle and other vehicles. Dated February 15, 1881.

„ 650. A. M. Clark—a communication from C. Coupland and J. H. Tingue, both of Seymour, Connecticut, United States, for improvements in looms for weaving. Dated February 15, 1881.

„ 668. H. J. Swindley, of Kensington, London, Civil Engineer, for improvements in bicycles and other velocipedes. Dated February 16, 1881.

„ 671. A. Kirby, of Bedford, for improvements in the construction of velocipedes and apparatus connected therewith. Dated February 16, 1881.

„ 677. A. Anderson and G. Browning, both of Glasgow, for improvements in sewing machines. Dated February 16, 1881.

„ 679. J. Harrington, of Norman's-buildings, Old-street, St. Luke's, London, for improvements in tricycles and bicycles. Dated February 16, 1881.

„ 703. J. H. Smith, of Nottingham, for improvements in knitting machines and apparatus applicable thereto. Dated February 18, 1881.

„ 729. G. G. M. Vernum, of Birmingham, Mechanical Engineer, for improvements in bicycles and tricycles, and other velocipedes. Dated February 19, 1881.

„ 753. G. W. Ash, of Southsea, Hampshire, for improvements in or applicable to bicycles. Dated February 22, 1881.

„ 754. G. Singer, of Coventry, Warwickshire, and A. W. Metcalfe, of Clifton, Gloucestershire, Engineering Student, for improvements in bicycles and other velocipedes. Dated February 22, 1881.

„ 756. J. Booth, of Ovenden, near Halifax, Yorkshire, Manufacturer, for improvements in the manufacture of knitted or looped fabrics, and in machinery or apparatus employed therein. Dated February 22, 1881.

„ 758. C. Heap, of Rochdale, Lancashire, Fuller, for improvements in or applicable to machines for tentering or drying fabrics. Dated February 23, 1881.

„ 763. J. Buckley, and J. C. Buckley, both of Leeds, for improvements in apparatus for pressing, smoothing, and finishing garments or parts of garments, also for pressing woollen or other woven or felted fabrics. Dated February 23, 1881.

„ 764. W. A. Carr, of Manchester, Manufacturer, for improvements in dobbies used in looms for weaving, applicable wholly or in part to shuttle changing motions. Dated February 23, 1881.

„ 779. J. P. Cox, of Nottingham, Bleacher and Lace Finisher, for improvements in steam presses for the finishing of lace and other manufactured goods where a light finish is required. Dated February 24, 1881.

„ 825. W. Cliffe, Machine Maker, and F. E. Ainley, Scribbling Engineer, both of Golcar, near Huddersfield, Yorkshire, for an improved method of and apparatus for feeding wool and other fibres to scribbling and carding machinery. Dated February 26, 1881.

„ 830. H. Kinder, of Leicester, for improvements in tricycles. Dated February 26, 1881.

„ 837. F. Caldwell, of Loughborough, Leicestershire, for improvements in machinery and apparatus to be employed in the manufacture of knitted fabrics. Dated February 28, 1881.

„ 848. H. H. Lake—a communication from J. M. Fair, of Buffalo, New York, United States, for improvements in the construction of sewing machinery, which improvements are partly applicable for other purposes. Dated February 28, 1881.

„ 856. W. Mather, of Manchester, Engineer, for improvements in machinery for stentering, stretching, and drying textile fabrics. Dated March 1, 1881.

„ 860. L. Appleton, of Brecknock-crescent, London, Accountant, for improvements in machinery or apparatus for cleaning knives. Dated March 1, 1881.

„ 878. W. Smith, H. Smith, and S. Stell, all of Keighley, Yorkshire, Commission Wool Combers, for improvements in machinery or apparatus for combing wool and other fibrous substances. Dated March 1, 1881.

„ 888. J. Smith, of Thornliebank, Renfrew, North Britain, Engineer, for improvements in apparatus for drying woven fabrics and other warps. Dated March 2, 1881.

„ 891. T. Humber, T. R. Marriott, and F. Cooper, all of Beeston, Nottinghamshire, for improvements in the construction of wheels for bicycles and other vehicles. Dated March 2, 1881.

„ 911. J. and C. E. Challis, both of Sidney-road, Homerton, London, for improvements in or relating to veloci-

pedes, applicable in part to other purposes. Dated March 3, 1881.

„ 920. J. F. M. Pollock, of Leeds, for improvements in pressing and ironing machines. Dated March 3, 1881.

„ 929. J. Hopwood, of Heaton Norris, Lancashire, for improvements in the construction of velocipedes. Dated March 4, 1881.

„ 931. W. Trafford, of Leek, Staffordshire, Silk Manufacturer, for improvements in machinery for spinning, weighing, sorting, sizing, doubling, twisting, throwing, stretching, and reeling into skeins silk or other fibrous materials. Dated March 4, 1881.

„ 948. W. A. Barlow—a communication from W. v. Krause, of Neusalz-on-the-Oder, Germany, for a new or improved meat chopping or mixing machine. Dated March 5, 1881.

„ 959. E. Whitehall, of Nottingham, for improvements in machinery and apparatus to be employed in producing knitted and crocheted fabrics. Dated March 7, 1881.

„ 972. C. G. Hawkins, of Leyton-road, Forest-gate, London, for improvements in tricycles and other velocipedes. Dated March 7, 1881.

„ 1,001. R. C. Fletcher, of Tarleton Rectory, near Preston, Lancashire, Clerk in Holy Orders, for improvements in velocipedes. Dated March 9, 1881.

„ 1,020. J. B. Robertson, of Lurgan, Armagh, Ireland, for improvements in sewing machines. Dated March 9, 1881.

Letters Patent have been issued for the following:—

„ 3,347. W. R. Bull, of Angell-road—partly a communication from H. F. Kimber, of St. John's-road, both in London, for improved apparatus for carrying luggage on a bicycle or similar vehicle. Dated August 18, 1880.

„ 3,507. T. Pearson and J. Taylor, both of Bolton, Lancashire, for an improved construction of bobbin and shuttle tongue for shuttles. Dated August 30, 1880.

„ 3,524. J. Beresford, of Altrincham, Cheshire, for an improved combination of machinery and apparatus for cleansing and polishing silver or other metal, and knives, forks, and other articles of domestic use, applicable also as a motor for operating, mincing, grinding, and other similar machines. Dated August 31, 1880.

„ 3,589. B. Berry, Mechanic, and Samuel Sowden Freeman, Spinner, both of Bradford, Yorkshire, for improvements in spinning and in apparatus connected therewith. Dated September 3, 1880.

„ 3,715. S. Chatwood, of Cannon-street, London, Safe and Lock Engineer, for improvements in tricycles and like vehicles. Dated September 11, 1880.

„ 3,774. F. W. Schwarzbach, of Naumburgh-on-the-Gaale, Prussia, for an improved self-acting needle for knitting machines. Dated September 17, 1880.

„ 3,798. W. Jennings, Spinner, and T. Whitaker, Manager, both of Bradford, Yorkshire, for improvements in spinning machinery. Dated September 18, 1880.

„ 4,036. H. J. Haddan, a communication from J. Keith, of Rhode Island, United States, for improvements in sewing-machines. Dated October 5, 1880.

„ 4,037. L. Avis, of Coventry, Warwickshire, for improvements in velocipedes. Dated October 5, 1880.

„ 4,560. R. Curtis, Machine Maker, and W. H. Rhodes, Foreman, both of Manchester, for improvements in machinery for preparing and spinning cotton and other fibrous materials. Dated November 6, 1880.

„ 5,192. J. C. Fell, of Ashton-under-Lyne, Lancashire, Machinist, for improvements in spinning machinery. Dated December 11, 1880.

„ 5,252. A. Storer—a communication from L. Bollmann and J. Bollman, both of Penzing, Austria, for improvements in apparatus for overhead sewing. Dated December 14, 1880.

PATENTS WHICH HAVE BECOME VOID:—

No. 639. F. A. Fitton, of Manchester, Spindle and Flyer Maker, for improvements in spindles and flyers used in machines for preparing, spinning and doubling. Dated February 15, 1878.

No. 716. T. Bayliss, J. Thomas, J. Slaughter, and J. Elliott, all of Coventry, Warwickshire, for certain improvements in bicycles and other manumotive machines. Dated February 21, 1878.

„ 758. H. and C. E. Williams, both of Ashton-under-Lyne, Lancashire, for improvements in heald knitting machines. Dated February 23, 1878.

„ 775. P. A. Kautz, Engineer, of Hamburg, Germany, for improvements in sewing machines. Dated February 25, 1878.

„ 860. G. D. Scott, of Derby, and G. H. Phillott, of Cheltenham, Gloucestershire, for improvements in velocipedes, especially applicable to that description of velocipedes known as bicycles. Dated March 2, 1878.

„ 602. G. Griffiths, of Birmingham, for improvements in sewing machines, shuttles, and reels. Dated February 18, 1874.

„ 728. J. Hancock, of Nottingham, for improvements in the manufacture of knitted fabrics, and in machinery employed therein. Dated February 26, 1874.

„ 795. N. Salamon—a communication from H. Lippman and W. Lind, both of Hamburg, Germany, for improvements in sewing machines, part of which improvements is applicable to the driving of other machinery. Dated March 4, 1874.

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„ 2,591.	H. J. Lawson, velocipedes, &c.	0	6
„ 2,689.	G. Leidman and C. Berger, velocipedes, &c. ...	0	6
„ 2,781.	E. Taylor, driving and reversing gear for washing, wringing, and mangling machines ...	0	6
„ 2,859.	F. H. F. Engel, sewing machines	0	6
„ 2,900.	T. Fletcher, sewing machines	0	4
„ 3,000.	H. J. Haddan, circular knitting machines ...	0	6
„ 3,015.	H. J. Haddan, machinery for spinning	0	8
„ 3,061.	S. Chatwood, tricycles, &c.	0	2
„ 3,068.	W. M. Lett, bicycles	0	2
„ 3,102.	T. Williams, jun., apparatus for cutting and mincing sausage meat, &c.	0	6
„ 3,105.	J. Bonner, bicycles, tricycles, &c.	0	2
„ 3,109.	E. Clements, wringing machines	0	6
„ 3,118.	H. J. Haddan, sewing machines	0	2
„ 3,158.	H. H. Lake, knitting machines	0	2
„ 3,161.	E. Wiseman, sewing machines	0	6
„ 3,194.	W. Robinson, pianofortes	0	2

Postage and Receipt Stamps.—The statement that Mr. Gladstone has recently promised to make one stamp do duty for postages and receipts has caused some correspondence in the daily papers with reference to the real originator of the idea, which is claimed for an official in the Post Office department. This may be so; but, practically, every collector of postage stamps (and there are many) knows that the interchangeable stamp has long been in use in some of our West Indian Colonies, and that fiscal stamps have been occasionally used for postal purposes in India, Hong Kong, and Queensland. The same custom has prevailed for some time in South America (notably in Venezuela) and elsewhere. While the Government are about to study the public convenience in allowing the use of the one stamp for both purposes, we suggest that they might with advantage withdraw the issue of separate stamps for telegrams. The inconvenience of having distinct stamps for payment of telegrams is even greater than that of having a separate receipt stamp, since the latter is of uniform value, while the charges for telegrams are as various as those for letters.—*Colonies and India.*

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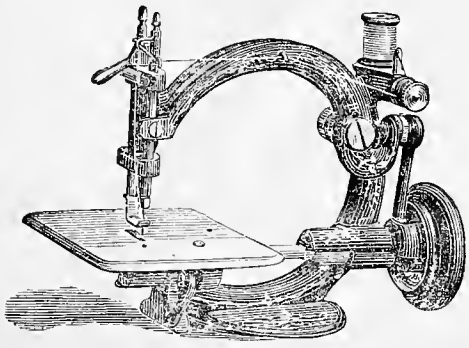

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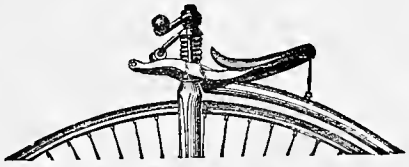

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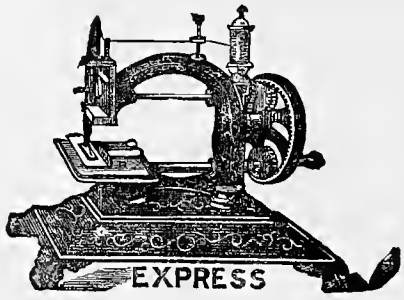

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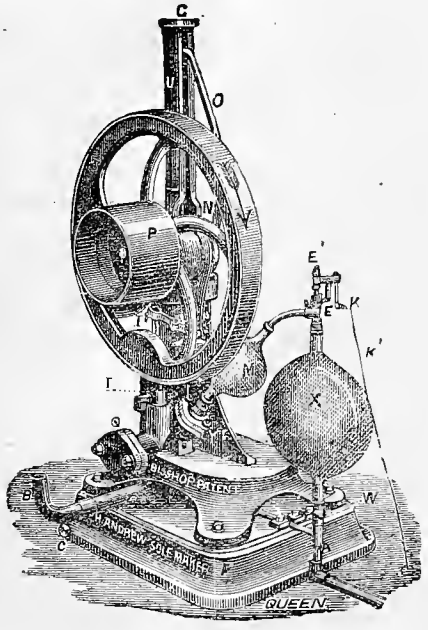

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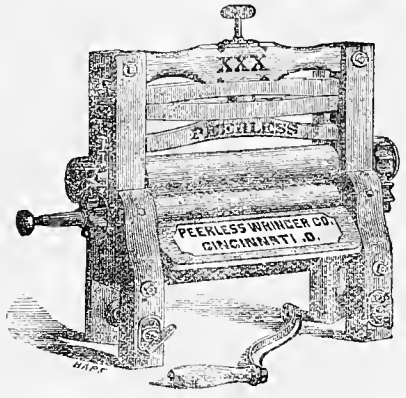

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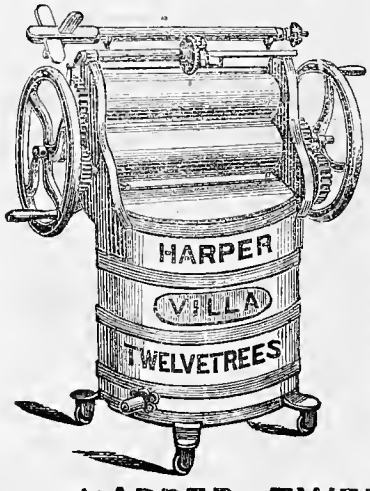

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LIFE—Page 24 :—"Make Life a grander thing. Prove to men what a glorious thing it is to exist, how enjoyable life might be, how sweet life is, even as it is—aye, we never know how sweet until we fear we are about to lose it. What a mockery 'Faith in God' is when we reflect upon the melancholy views the majority of orthodox people have of it, going through the journey as an ordeal to be borne as patiently and submissively as possible, altogether misconceiving the noble sentiment, 'Not my will, but thine be done.'"

LIFE—Page 34 :—"Life is real, life should be earnest. To be enjoyed, we must have an aim, an object in life; and to be happy, to enjoy life, the object must be one worthy the highest, purest, best part of our nature—men's character so strong and true that they can be relied up; men that wear their lives out, not rust them out; men who live to act, to produce what they consume."

LIFE—Page 45 :—"The more we think of life, the greater must be our reverence for the 'Great Unknown.' Life will be very different once we get the people to realise as an indisputable truth that there is never anything wrong but what has been done by ourselves or others; and that the wrong remains so long only as we refuse to put it right.'"

LIFE—Page 102 :—"Common sense denies that any happy chance will do for a man what he is quite unable to do for himself. Our happiness consists in the use of our faculties, and a faith that our wages will be in proportion to our deserts. Success and failure are not dealt out like prizes and blanks in a lottery, by chance and indiscriminately; but there is a reason for every success and failure. Indolence, chicanery, waste will cause the one; while industry, honesty and thrift will ensure the other.'"

LIFE—Page 173 :—"The more you think of life, the more you know of the Creator's way of governing the universe, the more you know of your own constitution and the happiness within your reach, the less will you believe that God meant man to be born weeping, to live complaining, and to die disappointed.'"

LIFE—PAGE 192 :—"We have life. What shall we do with it? The world is like a vast manufactory, in which we hear incessantly the clash and whirring of a complex machinery. Shall we try and get the bottom of this? Yes, undoubtedly, earnestly, and fearlessly. Believe me you will thus get to learn that the law maker is behind his laws, and that, paradoxical as it may seem, while He hides himself behind them, He also reveals himself through them. There is no better way of understanding the Creator; the laws are emanations of the all-beauteous mind; they shadow forth the divinity that contrived them; we find the more we study them, greater evidence that there is a Living God, a Father caring for and loving His children."

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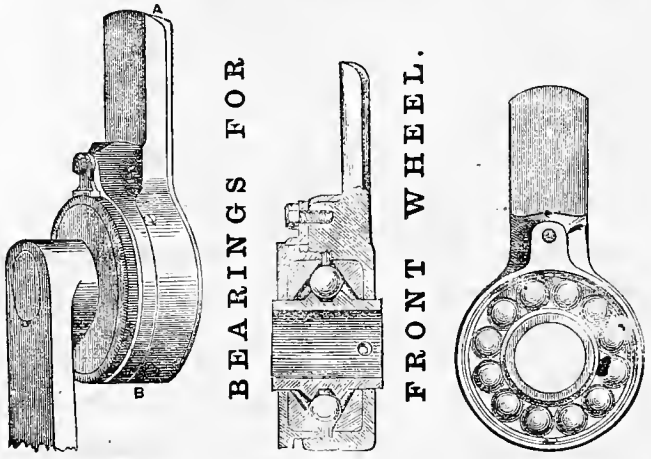

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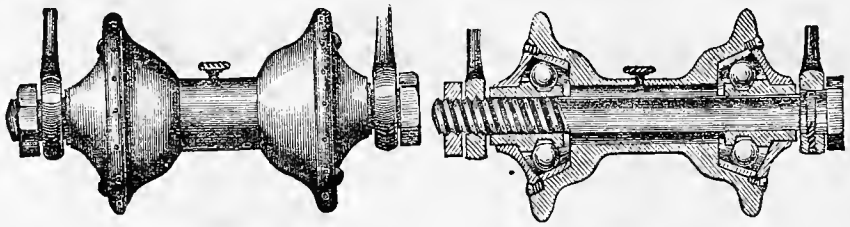

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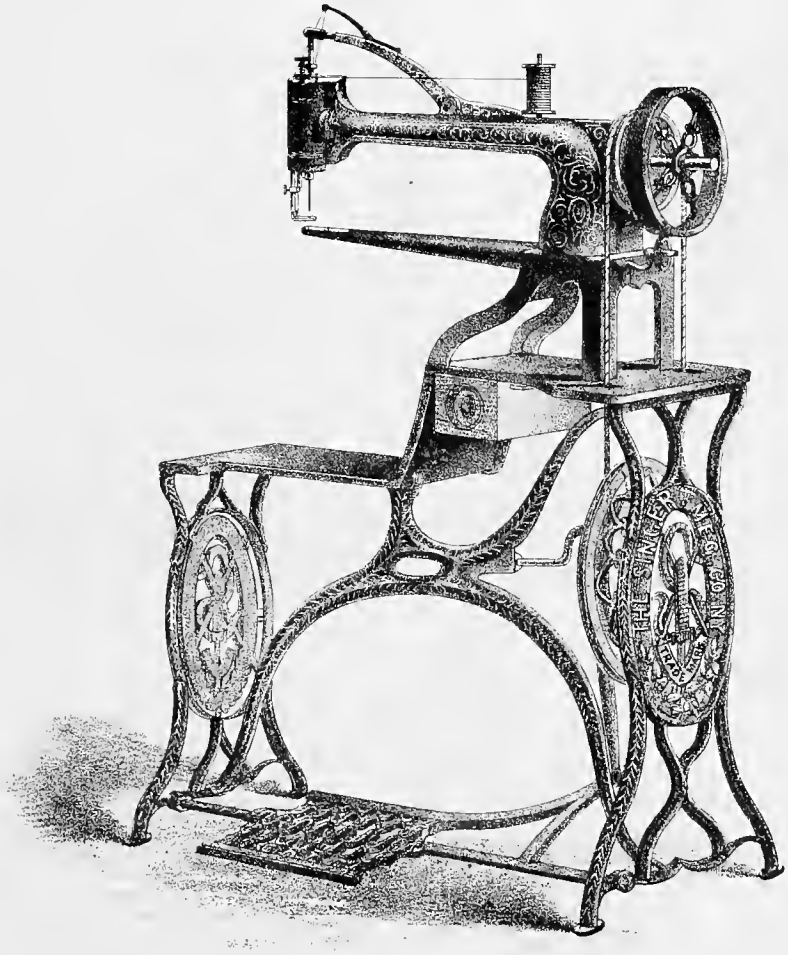

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Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
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Ennis, Jail-street
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Kingstown, 65A Lower George-st.
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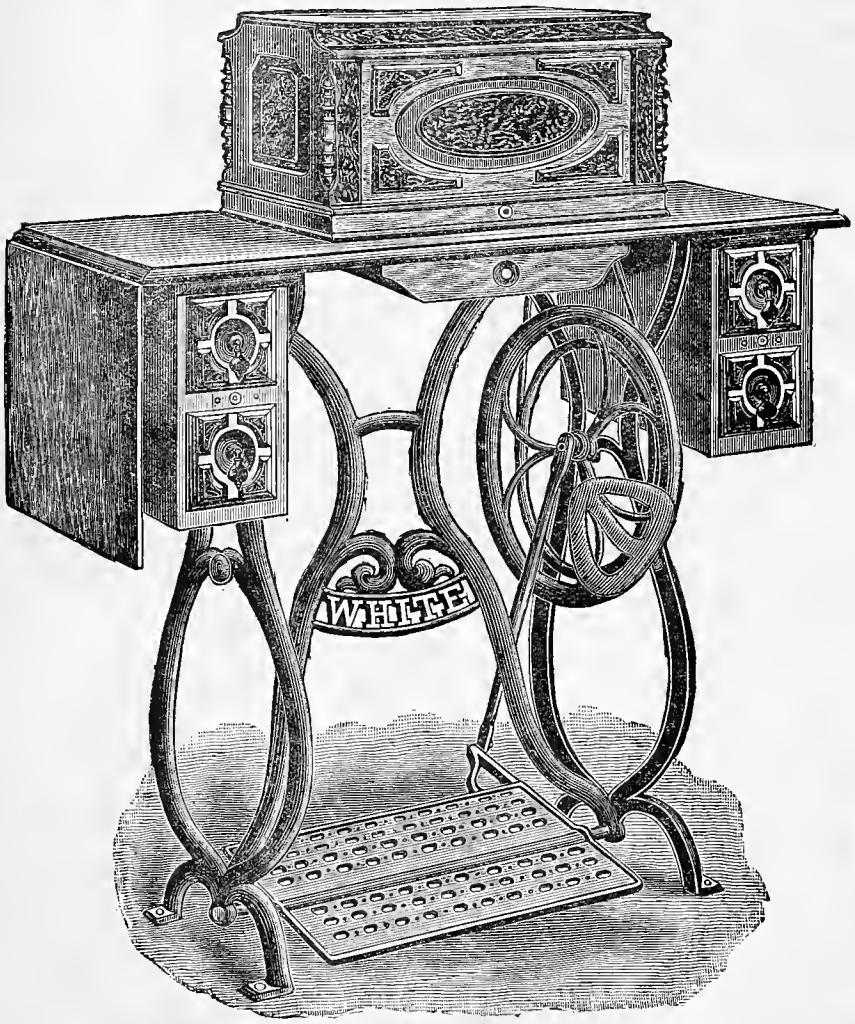

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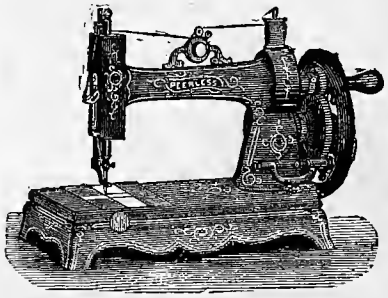

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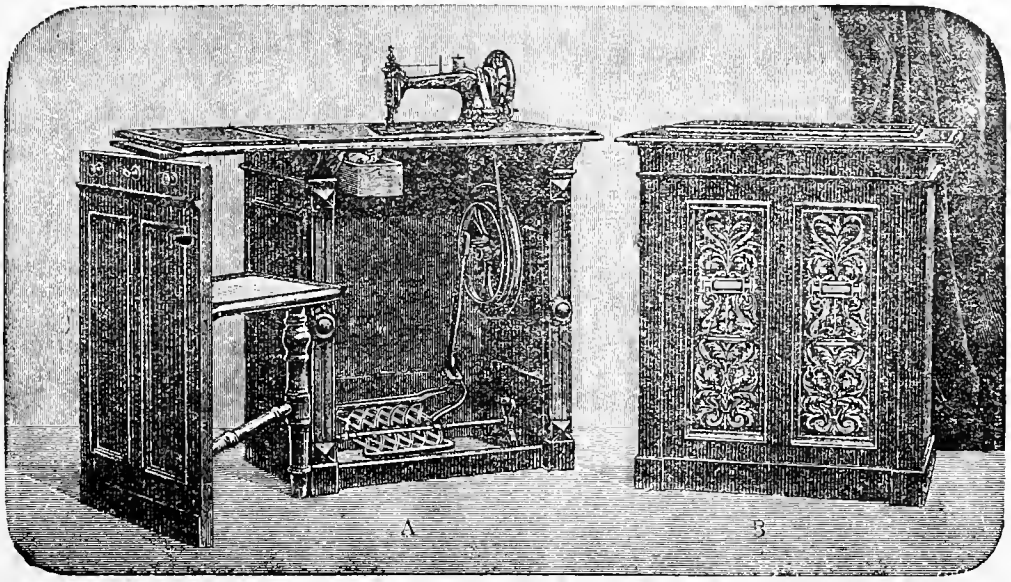

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Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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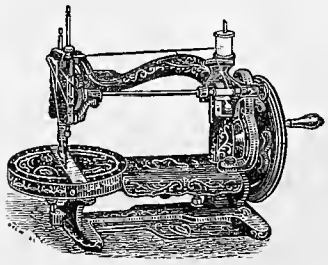

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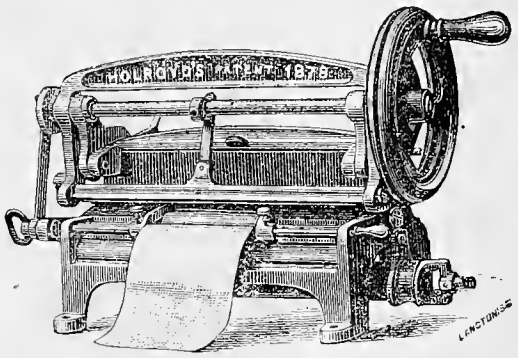

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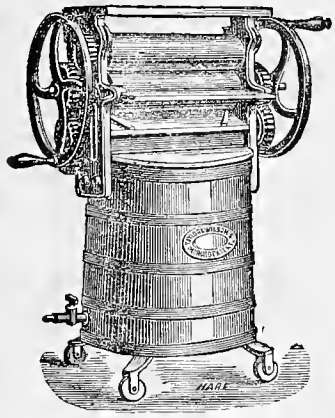

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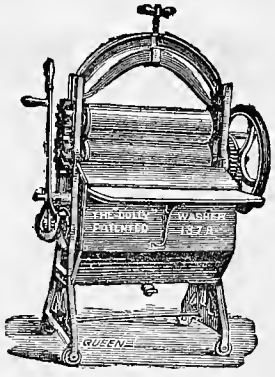

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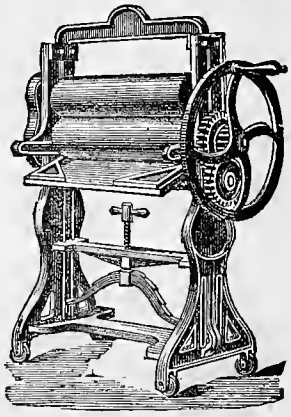

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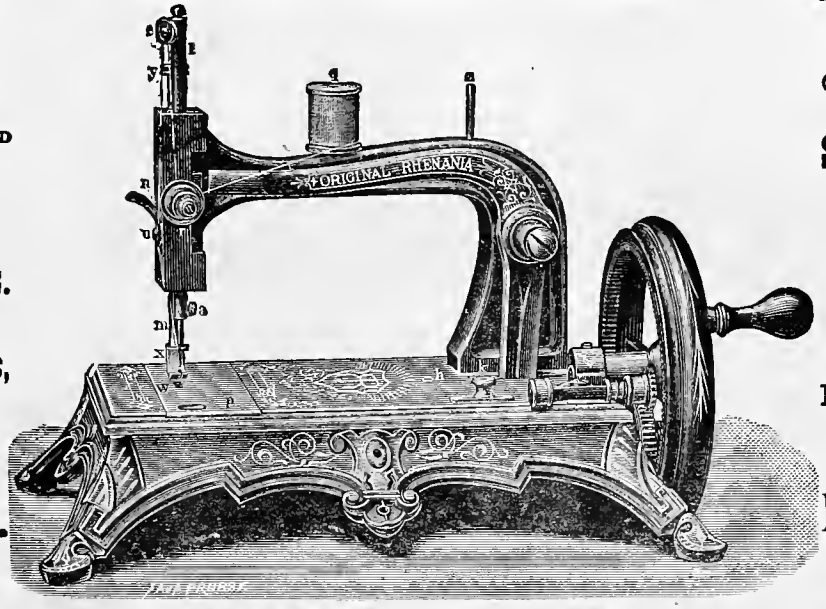

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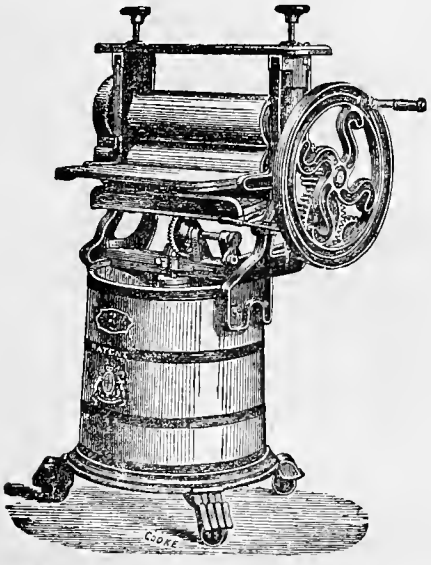

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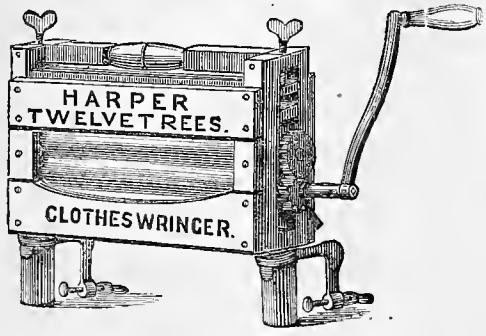

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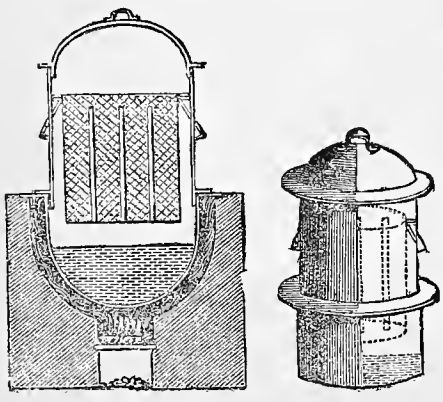

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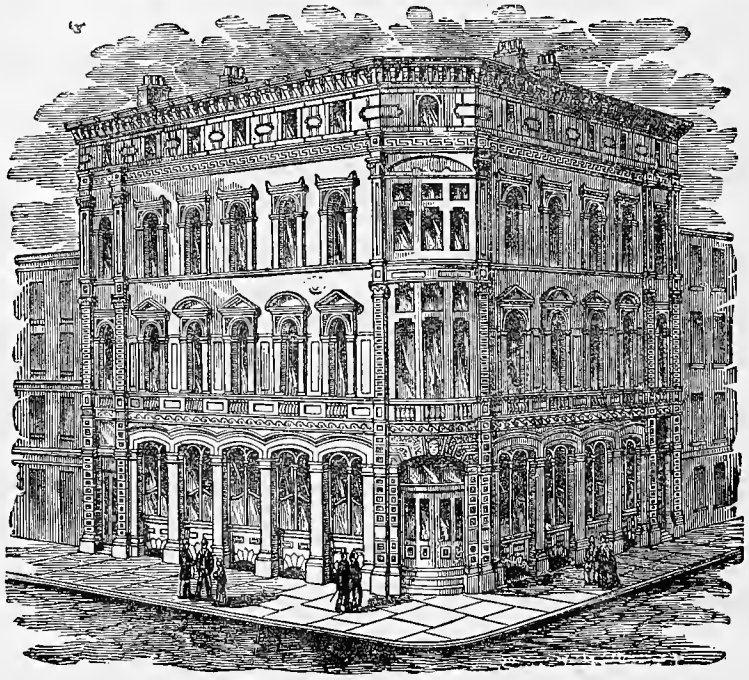

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With their various associated Agencies, form together a complete organisation for the protection of Bankers, Merchants, Manufacturers, Traders, and others, against risk and fraud in their various commercial transactions.

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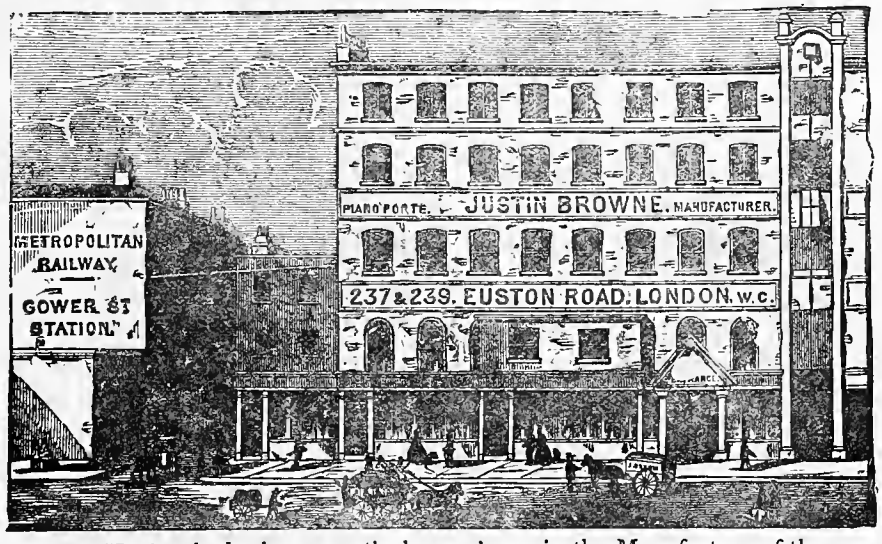
PIANOS FOR TROPICAL CLIMATES



PIANOS WHICH WILL WITHSTAND HEAT OR COLD.

Having had a long practical experience in the Manufacture of the

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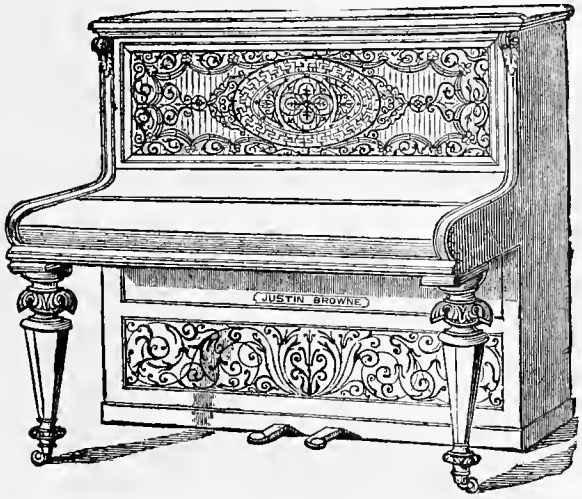
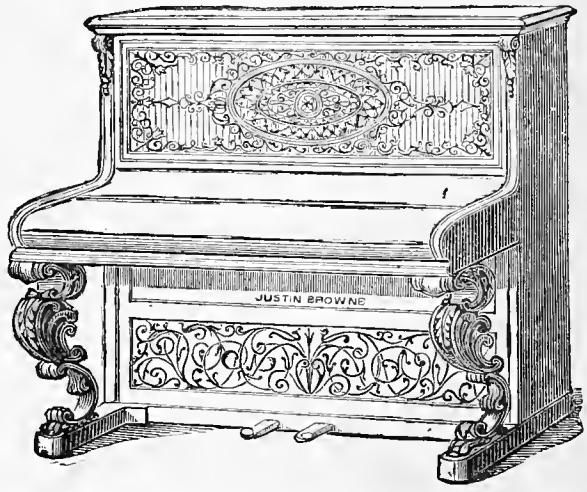
Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.





JUSTIN BROWNE can refer to customers whom he has supplied in New Zealand, Costa Rica, Peru, Calcutta, &c., all of whom have expressed the greatest satisfaction, and renewed their orders. His prices will be found to be extremely low in proportion to the quality of Pianos, and in comparison with those of other Houses where the same degree of soundness and durability is studied, the reason of the difference being that in their case, selling as they do retail, there are heavy expenses for Show Rooms, Advertising, &c., which as a Wholesale Manufacturer he does not incur; having only Factory expenses, he can offer an equally good instrument at a much lower figure.

CATALOGUES OF DESIGNS AND PRICES SENT FREE.

JUSTIN BROWNE,
PIANOFORTE MANUFACTURER,
237 & 239, EUSTON ROAD, LONDON, ENGLAND.

MACHINE COTTON.
SIX-CORD SOFT COTTON.
CROCHET COTTON.
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MARKING COTTON.
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TATTING COTTON.
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CARLILE & CO.

TRADE MARK

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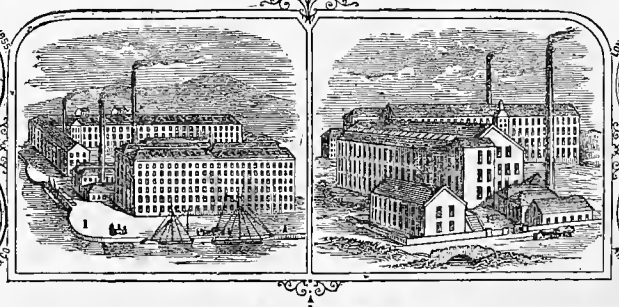

SEWING COTTON MANUFACTURERS,
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CARLILE & CO.'S
SIX-CORD SOFT AND EXTRA QUALITY GLACE
BEING OF VERY SUPERIOR QUALITY, ARE SPECIALLY ADAPTED
FOR MACHINE SEWING.

EXPOSITION UNIVERSELLE INTERNATIONALE DE 1878 PARIS

C. and Co. beg to direct attention to their celebrated CROCHET or TATTING COTTON, in Hanks or Balls.

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"EMPIRE" WASHER.
THE BEST AND CHEAPEST MACHINE FOR FAMILY USE YET OFFERED TO THE PUBLIC.

PRICES.

No. 1.	- - - -	£1 10 0
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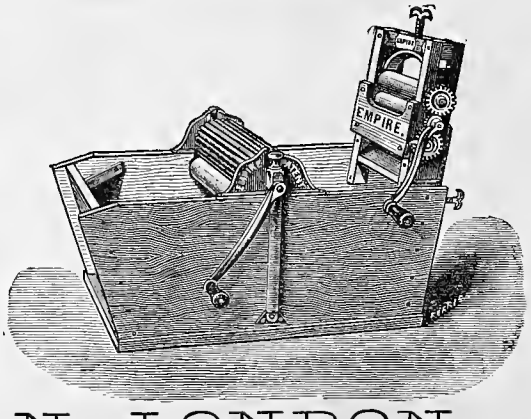
Liberal Discount to the Trade. For Illustrated List apply to Makers,



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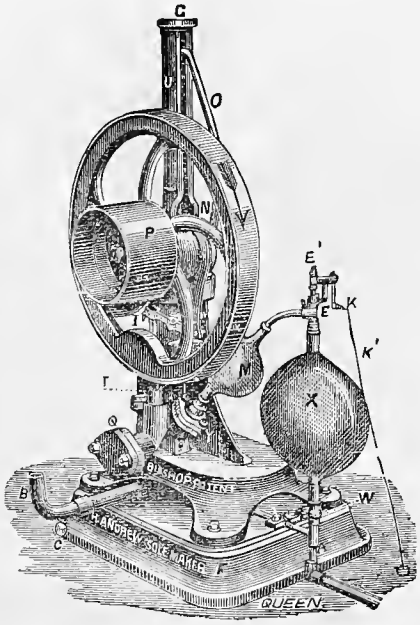
THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0 0
One-and-a-half Man	30 0 0
Two Man	35 0 0
Four Man	50 0 0

NO SEPARATE METER



NO WATER WANTED.

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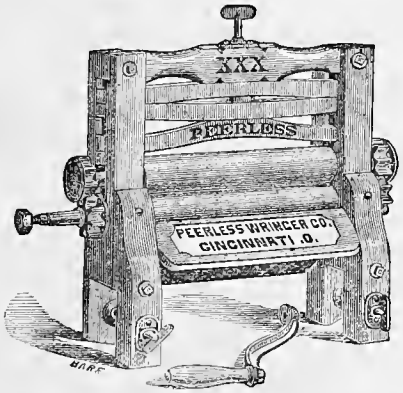
18, Waterloo Road, STOCKPORT.

THE "PEERLESS"
CLOTHES WRINGER
Is the leading Wringer of America.

AWARDED THE FIRST PRIZE *Wherever it has competed.*



Shippers, Merchants, and the Trade PLACED ON THIS *MOST FAVOURABLE TERMS.*

The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

Enquiries and Orders to be addressed to the Sole European Representatives,

JOHN R. WHITLEY & CO.,
7, POULTRY, LONDON, E.C.;
AND
8, PLACE VENDOME, PARIS.

AGENTS WANTED.

OILS.

IMPERIAL SEWING MACHINE,
In 1 to 6 oz. Bottles.
CRYSTAL SPERM SEWING MACHINE,
In 1 to 2 oz. Bottles.
BICYCLE LUBRICATING,
In bulk or bottle to order.
"SOLAR" BICYCLE LAMP OIL,
In 4 and 10 oz. Bottles.
MACHINERY OILS,
As consigned to us by the drum or barrel.

SEWING MACHINE TRADE SUPPLIES—

OIL CANS, SCREW-DRIVERS, NEEDLES, RUBBERS, BELTS, FITTINGS and PARTS.

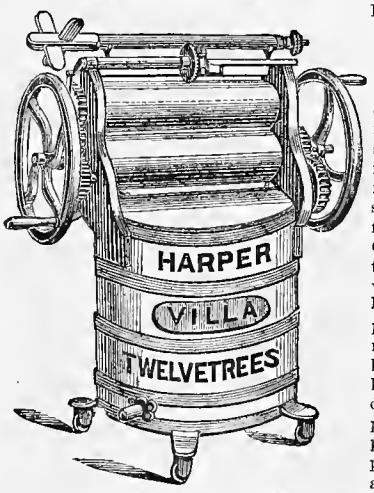
DOMESTIC MACHINERY—

In all its branches.
SOLE AGENTS for the HAMILTON MANUFACTURING Co. Manufacturers of the "WALKER WASHER" and DOMINION WRINGER.
IMPORTERS of AMERICAN KNITTING MACHINES, NOVELTIES, and HARDWARE.
SOLE AGENTS for the BICKFORD KNITTING MACHINE Co.

LISTS OR SAMPLES ON APPLICATION TO

R. S. DAVILLE & CO.,
46, WOOD STREET, LIVERPOOL.

WASHING-DAY REFORM
HARPER TWELVETREES'
RENOWNED "VILLA"
WASHING MACHINE
£2 15s., OR WITH
MANGLER & WRINGER, £5 5s.,



Does the Fortnight's Family Wash in Four Hours, without RUBBING OR BOILING, as certified by thousands of delighted purchasers It is easy to work, easily understood, strongly made, durable, does not injure the clothes, but really saves them; and is the only Washing Machine in the world which renders Boiling unnecessary, and saves five or six hours of coppers firing each washing day. The Five Guinea "Villa" Washer possesses tremendous washing power, and will wash 15 dozen collars and ladies' cuffs in five minutes; 150 pocket-handkerchiefs in five minutes; 60 hotel table cloths in an hour; 10 dozen bedroom towels per hour; 3½ dozen shirts per hour; 1½ dozen sheets per hour, and counterpanes, blankets, curtains, &c., in proportion. Such success is unparalleled! Illustrated Prospectuses and Export Quotations post free of

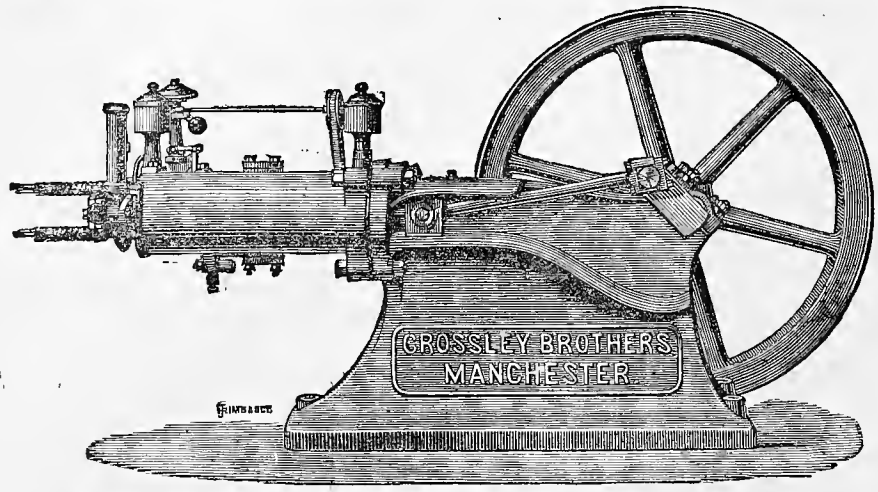
HARPER TWELVETREES,
LAUNDRY ENGINEER AND MACHINIST,
80, FINSBURY PAVEMENT, LONDON, E.C.

MORE AGENTS WANTED.

Sole London Agent for Kenworthy's "Paragon" Washing Machine.

An Engine which works without a Boiler or Steam.

AVERAGE MONTHLY DELIVERY (including Continental) OVER 180 ENGINES.



THE "OTTO" SILENT GAS ENGINE.

IS RAPIDLY REPLACING STEAM ENGINES FROM 1 to 40 HORSE POWER IND.

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Great Marlbro' St., Gloster St.,
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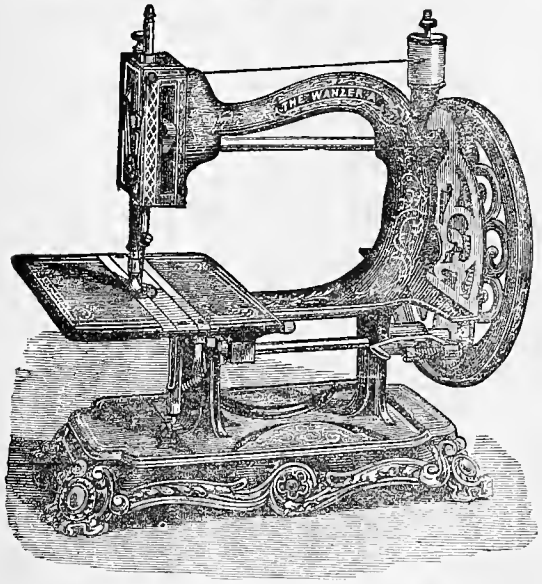
THE "WANZER"



LOCK-STITCH, HAND OR FOOT,
SEWING MACHINES.

First Prize Medals, Honours & Awards, wherever Exhibited.

THE NEW "LITTLE WANZER."—Entirely reconstructed and improved. Nickel-plated, Loose Wheel, New Patent Shuttle, Take-up Lever and Spooler. £4 4s.

WANZER "A," Simplicity Itself.—The most powerful yet light running Hand Machine, straight race. £4 4s.

WANZER "C" Light Foot Family Machine, entirely New, with every improvement up to 1879. £6 0s.

WANZER "F" Family Machine, with Reversible Feed and Stitch Lever. £7 10s.

WANZER "E" Wheel Feed Machine, for heavy work of all kinds £8 8s.

WANZER PLAITING, KILTING AND BASTING MACHINES,

Over 200 varieties of perfect Plaiting or Kilting, from 30s. complete. *The only Machine Kilting and Basting at one operation.*

WANZER "A"
IS THE
Great Mechanical Success of the Age.
It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

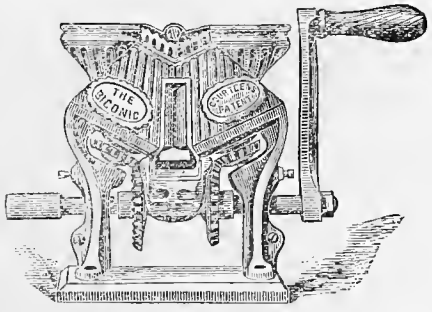
The Wanzer Sewing Machine Company,
LIMITED,
Chief Office—4, GREAT PORTLAND ST., OXFORD CIRCUS, LONDON, W.

NOVELTIES IN DOMESTIC LABOUR-SAVING APPLIANCES

IT is our intention to devote a few pages of this journal every month for the purpose of describing and illustrating any novelties in domestic appliances that may economise labour. Each month brings with it something new in domestic appliances, as in the dress fashions of the fair sex, only the former are useful, while the latter are generally only ornamental. We shall make it our special duty to inspect all such articles as they are manufactured and record them under our heading, "Novelties in domestic labour-saving appliances."

THE "BICONIC" KNIFE CLEANER.

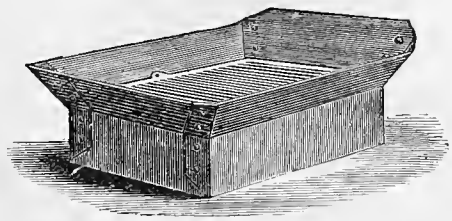
This article consists of two cones, which are covered with vulcanised indiarubber, and between which the knife is worked, the cutting edge downwards. A few turns are given to the handle while the knife is passed to and fro, one or two movements being sufficient to produce a brilliant polish. The inventor asserts that this machine will not blunt the knives, loosen the handles, or grind the backs thin. The receptacles



on the top of the machine are for the powder to be placed in. Althongh only one knife can be cleaned at a time, the rapidity is so great as to be as quick, or even quicker, than many other knife cleaners, in which so much time is consumed in arranging and adjusting. It will also polish carving forks, and its action is so simple that a child could manage it. The manufacturer is Mr. H. S. Crump, of the Albion Iron Works, Gloucester.

THE "SAVE-ALL" CINDER SIFTER.

This little article is made in two parts, the top or hopper for cinders, the bottom bar for the ashes or dust. As will be seen by the illustration, it is made to fit underneath a kitchen range; it thus catches the cinders and dirt as they drop from the fire. As it fits up close behind, the ashes screen the dust,



and ashes cannot therefore fly about, and the hearth is consequently much tidier than it otherwise would be. The retail prices of this article are from 2s. 6d.—that being a 12-inch size—to 4s., 18-inch size. It is manufactured by Messrs. Verity Brothers, of Call-lane, Leeds, under Banks' patent (5212).

THE ROYAL PNEUMATIC FIRE ENGINE.

A most necessary and useful domestic apparatus has just been patented and brought out by Messrs. Spong and Co., of 249, High Holborn, W.C. We append an illustration of the Royal Pneumatic Portable Fire Engine, a description of which will doubtless interest our readers. There is no doubt that one of the most fearful calamities that can befall a house or homestead is a sudden outbreak of fire. The most destructive fires often arise from small beginnings, which, if checked in time, would prevent much destruction of property, and even of life. Every one knows this, but few take the trouble to make the slightest provision against it, and when a fire *does* occur, having nothing to fall back upon, most people get into a panic, lose all self-control, rush to the windows, or else send or run for the firemen, who often cannot arrive till the fire has gained the mastery; in the meantime a comfortable home has become an utter ruin. Much may be done to prevent such calamities by the use of the simple, effective, powerful, and Portable Pneumatic Fire Engine introduced by Messrs. Spong and Co. We think no house may be said to be furnished without one or more of these Portable Pneumatic Fire Engines. Messrs. Spong and Co. were not ready with them for show at the late Domestic and Building Trades' Exhibitions at the Agricultural Hall, Islington, but propose shortly to have a public practical display of its powers, of which due notice will be given.

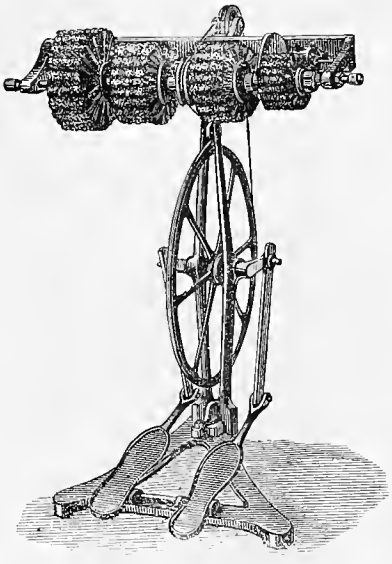
The Portable Pneumatic Fire Engine is worked by compressed air and water only, and is the only portable fire engine

worked without chemicals. It can be charged in three or four minutes by any one without expense, may be kept always ready for immediate use, and cannot get out of order. It may be carried by handles, or on the back, to any part of a house or building. As it can be charged by the operator up to a pressure of 80lbs. or 100lbs. to the square inch—shown by a pressure-gauge fixed to each engine, which anyone may understand—a stream of water can be thrown with great force from 60 to 80 feet, and will extinguish a fierce fire, in its first stage, in one minute. It is perfectly safe, every engine being tested

up to double the pressure required. It is always certain in its action, which chemical engines are not, as frequently the chemicals fail to operate when required; and it is much cheaper than engines worked by chemicals, as they are utterly useless without a supply of "charges," which cost from 5s. to 8s. each, and can only be procured from the vendors, whereas air and water is always at hand. It is, therefore, the simplest and most economical portable fire engine in use, and refutes the erroneous notion, common in many people's minds, that water in small quantities must be charged with offensive and destructive chemicals before it can extinguish fire. No fire in its early stage can live against a comparatively small stream of water if driven with sufficient force against it. The engines hold about six gallons of water each, and it is a fact that one gallon thrown upon a fire in its early stage by this engine will do more than ten thousand gallons applied by other means after the fire has obtained the mastery. It may be well to add that this engine may be used with or without chemicals; but we do not think that, in any case, they are necessary. The price is £6 6s. retail, liberal terms, we are informed, being given to all shippers of and dealers in domestic appliances,

STEEL'S BOOT CLEANING MACHINE.

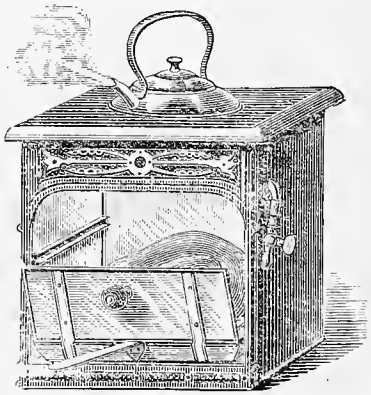
The latest domestic labour-saving appliance, we think, is Steel's Boot Cleaning Machine. There are one or two machines we believe, already made, but they have not the wonderful rapidity which characterises this one. When writing of this one cannot help thinking of our old friend, Sam Weller, at the White Hart Hotel. The wooden leg in number six, the pair of Hessians in thirteen, the two pair of halves in the commercial, the painted tops in the snuggery inside the bar, the Wellingtons a good deal worn, and the ladies' shoes in number five would have been very quickly blackened and shined, and "Boots" would have had no need to have made such reply, when hurried by the servant girl, as, "Ask number twenty-two whether he'll have 'em now, or wait till he gets 'em?" The "Artful Dodger" would have appreciated one of these



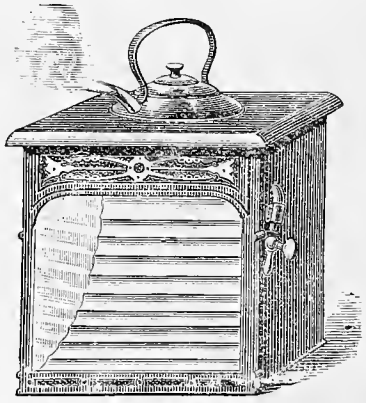
when, to use his language, he was "japanning his trotter cases." Our engraving above represents the machine, which is very simple in its action, and can be easily worked by a boy or girl without any previous instructions. The easy motion of the machine is obtained from one uniform arrangement of the cranks, and the labour in working is so slight that the operator does not tire. The weight of the machine is about 60lbs. When working the machine the brushes must revolve towards the operator. The blacking used must be of a creamy consistency; and when the polishing or dirt removing is in hand, the blacking feeder should be disconnected. The application of a small quantity of oil is essential to the smooth working of the centres and bearings, but care should be observed to prevent any grease coming in contact with the brushes. Full particulars can be obtained at the Boot and Shoe Cleaning Machine Company, 4, Halkin-street West, Belgrave-square, S.W.

THE DUPLEX GAS STOVE.

We do not expect that Messrs. John Wright and Co., of Essex Works, Birmingham, the manufacturers of the Duplex Stove, will claim that it is as wonderful an invention as that



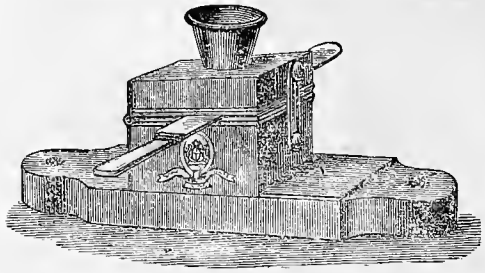
compact cooking apparatus owned by the "single gentleman" of the "Old Curiosity Shop," but it is certainly, in its way, a novelty. It is a stove fitted with a tin pan and gridiron; it



will boil a kettle on the top, and it has a copper reflector, so that when the cooking utensils are removed it forms a heating stove, as will be seen by the illustrations.

THE REX KNIFE CLEANER.

Among the most appreciated of all domestic labour-saving appliances, the knife cleaning machine holds a first rank. These cannot, however, be said to be articles for the million simply on account of the price. We have nothing to say against the beautiful machines of Kent, of Davis, of Spong,

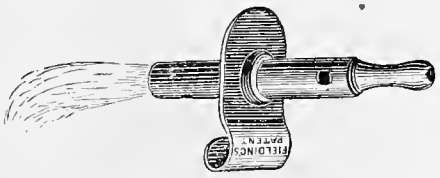


and others, only that the cost prevents their sale to the more humble buyer, so that a low-priced machine is wanted. We think this want is now supplied. Messrs. Hirst Bros, of Selby, and 5, Castle-street, London, E.C., are sole manufacturers and patentees of "The Rex Knife Cleaner"—a very useful little

machine, which retails at the low price of 2s. 6d. Our illustration will give a good idea of this knife cleaner. Its advantages are that it is not liable to get out of order, is very simple in its operation, and polishes both sides of the knife at one time with so little labour a child can use it with ease. It is already being supplied in large quantities to the leading dealers in domestic appliances throughout Great Britian.

FILDING'S PATENT GAS FIRE LIGHTER.

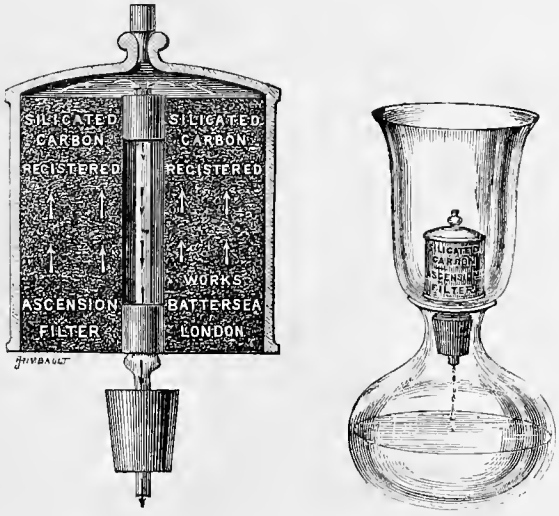
This fire lighter is hooked on to the bars, and is, therefore, safe, as it cannot be dragged away from the fire. It makes neither smoke nor smell, and it is claimed that it will light twenty fires for one penny. To use this fire lighter, it is necessary to get sufficient indiarubber tubing to reach from the firegrate to the nearest gas-bracket; slip one end of the tube over the nozzle of the fire lighter, and the other end on to the gas-bracket, turn the gas full on, and allow sufficient time for the accumulated air to escape, hold a light to the end of the



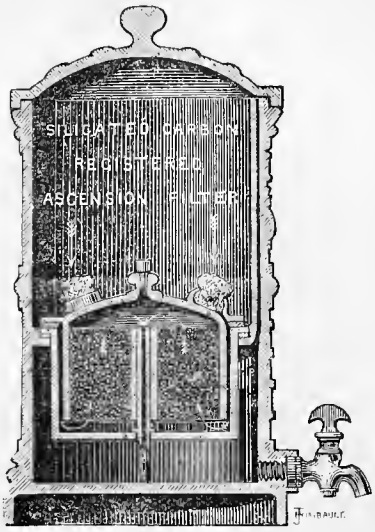
lighter, from which will at once issue a dark blue flame; but should the flame be white the gas must be turned off at once, and re-lit, or it will make a disagreeable smell, which the dark blue flame will prevent. Then make a hole at the bottom of the coals with the poker to receive the flame, which will in six or eight minutes thoroughly light all the coal it touches. The lighter should be hung upon one of the bottom bars with its end in amongst the coals, which should be in small pieces so as more readily to take fire. Care must be taken not to double the tube, as this will diminish the supply of gas.

THE ASCENSION TABLE FILTER.

The Silicated Carbon Filter Company, of Battersea, S.W., have just introduced the New Ascension Filter, as shown in our illustrations. The blocks in the filters are movable, and



can be taken out, when, with the aid of a piece of indiarubber tube, they can be converted into pocket filters, the small indiarubber peg at the top being placed in the socket-hole at the bottom. The water passes through the carbon in the directions shown by the arrows in the illustrations. When cleansing the filters, the small indiarubber peg should be removed and placed in the socket at the bottom; the carbon should be strongly blown in from the top, and scrubbed with a brush and boiling water. All the parts are kept in stock by the company, and therefore new carbon media can be supplied



without the filters being returned to the makers. We have tested the filter we have before us, and find it perfect in its action.

J. RICHARDS' PLASTIC METAL.

This metal requires no casting furnace, no crucibles, or apparatus of any kind. Is used chiefly for pasting purposes, and is a very useful metal in locomotive, engineering, and fitting shops generally. It has a great affinity for other metals, and adheres so firmly to brass, gun metal, cast iron, wrought iron, steel, &c., that when once pasted on, no abrasive force is sufficient to move it. As soon as it has cooled down, it sets as hard as the best gun-metal, wears equal to it, is 25 per cent. lighter, and applied to a locomotive, stands the test of a 50,000 miles run with ease.

Owing to its anti-attrition properties, the saving in lubricating oils, &c., has been variously stated by those who have used the plastic metal, at from 15 to 20 per cent. By its use, bearings in any metal, and of any dimensions, can be re-faced to their original sizes; thus saving much time and expense in re-melting, re-fitting, &c. The journals of spindles, axles, and shafts, whether of cast or of wrought iron when worn down, can be pasted up to their original diameters, and glands of all sizes can be tinned and filled up, perfectly sound. The plastic metal, if properly applied, will never break away from iron, or any other metal. Brass bushes, axle-box bearings, &c., may be dispensed with, by casting all such articles entirely of plastic metal, in properly chilled moulds, which will then require no boring or turning.

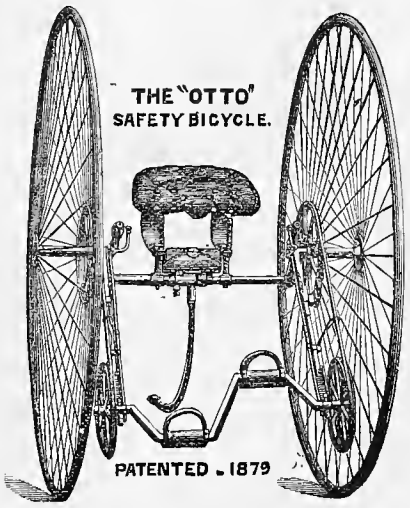
It is of great use in the foundry, for running in and filling up holes, or flaws of any kind, rendering all articles so treated, perfectly sound. It does not contain either lead or spelter, consequently its contraction in cooling is very trifling. It fuses at about 350 deg. Fahrenheit, can be melted in an iron pot or ladle over a small fire, and does not deteriorate by re-melting.

We would direct the attention of owners of machinery to this metal, for, by keeping a supply of the plastic metal ready to hand, a worn bearing can be removed, pasted up, and replaced, on the spot, in a few hours, thereby ensuring a perfect fit, and saving the expense of re-casting, and loss of time entailed by a long journey to a foundry.

It can be had in ingots of 14 lbs. weight, or in strips, from the manufacturers, J. Richards Plastic Metal Co., 95, Charlotte-street, Birmingham.

THE OTTO SAFETY BICYCLE.

As will be seen by the illustration, it is very different to the ordinary bicycle. In this machine the rider sits between two wheels in rear of and slightly above the centre, with feet resting upon treadles fixed on a double throw crank. At either end of this crank are grooved pulleys, connected by means of endless driving metal bands with other pulleys which form part of the hubs of the large wheels. It can be turned in any direction by simply turning a handle on the side to which it is desired to go, and the wheels both drive and steer. The crank can, at any time, be immediately placed in such a position as enables the rider to utilise his power to the greatest advantage. There is a most powerful break to each wheel, and the machine can be stopped in a few yards when travelling at a high speed, or held motionless on the steepest hill. The mode of construction renders it equally available for ladies and gentlemen of all ages, whilst by elevating or depressing the seat it is adjusted to suit riders of various heights. It can be mounted and dismounted without any trouble whatever, and can be driven forwards or backwards by merely reversing



the action of the feet. It is about 3ft. 2in. wide, and can describe a circle of 5ft. 3in. diameter. Roads which would be impracticable to other machines can be traversed with comparative ease and safety, and with much less risk of accident from stones or other obstacles. For town work this machine has no equal. In power of steering, stopping, and reversing, together with the fact of the rider being able to maintain his seat and start at any moment, combine to make it perfect in this respect. The Otto Safety Bicycle must commend itself to ladies, who will now have all the advantages of this mode of travelling, hitherto enjoyed by gentlemen only—to riders of other machines, uniting, as it does, easy riding with speed, comfort, and elegant appearance—to the clergy, medical profession, travellers, and tourists, as affording unequalled means of safe and rapid locomotion; and to all classes, both young and old. We can certainly say it is the safest and most comfortable bicycle that it was ever our lot to try. The manufacturers are the Otto Safety Bicycle Company, 118, Newgate-street, E.C.

ELECTRICITY FOR DOMESTIC PURPOSES.

On the 4th ult. a paper "On the Application of Electricity to Lighting and Heating for Domestic Purposes" was read before the Society of Telegraph Engineers and Electricians at Westminster by St. George Lane Fox, Esq. Professor Forster occupied the chair. Mr. Fox regarded it as certain that before long electricity would be applied to many and various domestic purposes, especially those of lighting and heating. He contended that electric lamps could be worked in indefinitely large numbers from central stations with a proportionate cost of working, and this referred equally to any other applications of electricity. He described his lamp (by means of which the room was lighted), showing that the light resulted from the incandescence of continuous refractory conductors of high electrical resistance, mounted in vacuum. He remarked that the light was not at all what the public usually understood by the electric light, the brilliancy not being very intense, but the colour being pleasantly soft, altogether different from the blueish white of an electric arc light. The cause of the unsteadiness of "arc," namely, the variable resistance, was, he said, not present, and the light was as absolutely steady as it was possible for any light to be. The cost of manufacturing each lamp would not exceed a shilling. In a properly constructed and exhausted lamp the carbon filaments would not deteriorate, provided their temperature was not raised above the point at which one-tenth of a square inch of radiating surface would yield a light of 15-candle power. The system of distribution was somewhat similar to that of gas, main conductors passing from central stations and branching in various directions, and electricity being forced into these conductors, so as to maintain them at a constant electrical pressure above the earth. The pressure of the mains being always the same, the amount of light given would always be equal. The regulators and other appurtenances connected with this system were also explained. The lecturer further contended that electricity would be at least as cheap as gas for heating purposes.

IMPROVEMENTS IN WASHING MACHINES.

Mr. Frederick Mann, of Bedford, has obtained provisional protection for an improved washing machine. His idea is to cause a constant automatic circulation of the water through the clothes that are being washed. The machine is simple in construction, and can be used in any ordinary copper or boiler. The inventor uses a dome of copper or other metal of about the same diameter as the bottom of the boiler in which the apparatus is to be used. From the centre of the dome is fixed a pipe of about one and a half inches in diameter, and long enough to reach to within an inch or so of the top of the boiler in which the apparatus is being used. In the top of this pipe there are several openings or spouts through which the water constantly flows when the apparatus is at work.

INTERNATIONAL INDUSTRIAL EXHIBITION.

An International Exhibition of power and work machinery for small industries will be held in Altona next August. The arrangement of this International Exhibition has been fixed as follows:—Department I. for power machinery, subdivided as follows: Class I., for gas power machinery; Class II., water power machinery; Class III., steam power machinery; Class IV., hot air power machinery; and Class V., dynamic electric hydrocarbon power machinery; whilst Class VI. has been set aside for models and drawings of power machines. Department II. for work machinery, implements, and tools, is subdivided into the following classes: Machines for the manipulation of wood, for joiners, turners, carpenters, &c.; machines for the working of iron, for smiths, locksmiths, &c.; machines for the manipulation of tin and pewter ware; machines for brass founders, tin founders, &c.; machines for watchmakers, goldsmiths, mechanicians, &c.; machines for working in leather; sewing machines; looms; stocking looms; machines for cloth shearers; winding and twisting machines; hemp dressing and hackling machines and rope making machines; machines for hat making; machines for brush making; colour grinding machines; pottery and glass ware machines; stone working machines; horn work machines; machines for millers, bakers, and confectioners; machines for printers, lithographers, photographers, &c.; machines for bookbinders, &c.; machines for cigar makers; machines for butchers; machines for the manufacture of ice, mineral waters, &c.; machines for the manufacture of screws, nails, pins, needles, &c.; and coupling apparatus, as far as necessary for work machines. Department III. comprises miscellaneous articles, as also objects manufactured by the machines and implements exhibited in Departments I. and II., such as—Specimens of wood and iron work, tin and pewter ware, textile fabrics, printing, bookbinding, fancy leather goods,

&c., &c. Department IV. is set aside for dairy machines and utensils, such as churns, cheese vats, and presses, &c.; whilst Department V. is devoted to agricultural machines and implements. The title "International" will not have been given to this exhibition without cause, for, being held in the closest proximity to Hamburg, the chief commercial town of the Continent, manufacturers will undoubtedly exhibit on a large scale, in order te draw the attention of Hamburg export houses to the adaptibility of their wares for shipment to all parts of the world. His Excellency the Minister of State, von Bötticher, has consented to act as president of this International Exhibition.

THE HOWE MACHINE COMPANY'S WORKS AT GLASGOW.

(From the *Ironmonger*.)

The invention and progress of the sewing machine undoubtedly forms one of the most interesting chapters in the industrial progress of the world. No species of machinery has become more universally applicable, and the possibilities of its future development are co-extensive with those of civilisation itself. It has never been disputed that the invention of the sewing machine belongs to America. Nor will it be denied that to the late Elias Howe belongs the conspicuous distinction of being the first to construct a machine that could be regarded as a practical success.

To the early history of the sewing machine it is not essential to our present purpose that we should refer at length. But we cannot refrain from recalling the circumstances that, when Elias Howe completed his machine in 1846, he could find no one in America willing to adopt it. He therefore resolved to offer it to England, and in October of the year named his brother, Mr. A. B. Howe, took a passage in a sailing vessel, along with one of the machines, for London. Mr. A. B. Howe submitted the machine to Mr. William Thomas, who had a shop in Cheapside, and employed a large number of persons in the manufacture of corsets, umbrellas, carpet bags, and shoes. The machine having met with the approval of Mr. Thomas, that gentleman purchased, for £250, the right to use as many of them as he desired. Mr. Thomas took out a patent for England, and during the existence of the patent every sewing machine made or imported into England had to pay to him a tribute of £10. It was not until the year 1850 that the sewing machine was adopted in New York. It was six years later before the regular manufacture can be said to have been fully entered upon; but, once fairly started, the industry developed with amazing rapidity.

For more than a dozen years, the manufacture of the sewing machine was practically confined to the United States, the factories of which had accordingly to supply not merely the large home demand, but the ever-increasing orders that came pouring in from Great Britain and the nations of the Continent. It was seen that the trade of the eastern hemisphere would by-and-bye assume gigantic proportions, and it also became apparent that there were certain valuable advantages that would attend the establishment of the manufacture in this country. It was about the beginning of the last decade that the Howe Machine Company opened their first Scotch factory in Love-loan, Glasgow, and the writer of this article had the pleasure, through the courtesy of Mr. F. M. Tower, the energetic manager, and a director of The Howe Machine Company (Limited), of inspecting the machinery and the different processes through which the machines passed on their way towards completion. The factory at that time was an interesting sight, but it very soon was found to be much too small for the quickly-extending business of the company. This will be readily understood when it is stated that the company's sales of machines in Europe rose from about 20,000 in 1871 to upwards of 41,000 in 1873, this being altogether independent of the output in the latter year of over 153,000 machines from the same company's manufactory at Bridgeport, Connecticut, U.S.A. A much larger factory having become a necessity in Glasgow, Mr. Tower purchased in March, 1872, a large area of land off London-road, in the east end of the city. Old buildings that stood upon the ground were cleared away, and the erection of the works was pushed forward with such rapidity that in May, 1873, they were so far completed that the manufacture was commenced, the old premises in Love-loan being shortly afterwards abandoned. In less than three years thereafter we find the new works producing close upon 68,000 machines per annum. Since that time the production has gone on steadily advancing, and Mr. Tower is now able to turn out at least 130,000 machines per annum. Before proceeding to give a brief description of the factory, we may state that the sewing machine industry is now entitled to be ranked among the staple trades of Glasgow. Besides the machines that are sold by the different companies at home, the foreign trade is very extensive, as may be judged from the fact that the value of the weekly exports of these machines from the Clyde frequently exceeds £10,000. The exports to France and Spain are very large, and the Mediterranean ports receive the machines in great numbers.

The new Glasgow factory occupies a commanding site between Avenue, Fielden, and Barrowfield streets, the ground extending to 6,135 square yards, with seven different sets of buildings. The principal building is in Avenue-street, to which it has a frontage of 390 feet. It is 40 feet in width, and consists of four storeys and attics, the ceilings of each flat being 11 feet from the floors. The building in Fielden-street is 265 feet in length by 30 feet broad, and three stories in height. At the corner of Avenue and Fielden streets the principal office, with entrance to the works, is 55½ feet in length and 40 feet deep, and is connected with the chief building in Avenue-street. The smiths' shop, which is situated at the corner of Fielden and Barrowfield streets, is 88½ feet by 60 feet, and contains 14 stamping machines, besides the requisite forging-furnaces. The annealing and case-hardening shop, in Barrowfield-street, is 80 feet in length by 38 feet in width, and 16 feet in height. This shop contains 15 furnaces. The japanning and ornamenting building is four storeys high, 81 feet long, and 45 feet wide, the lower storey being fireproof and having seven drying-ovens. The inspecting and store house is 68½ feet in length and 40 feet in depth, and also has four storeys, the whole of which, together with the roof, being fireproof. The entire frontage of the factory is 1,059 feet.

The machinery runs with marvellous smoothness, and it need scarcely be said that it does its work with perfect exactness, all the parts of the machines, however delicate, being made interchangeable.

The different machines manufactured by the company are distinguished by letters—A, B, C, and so on. The "Family" or letter "A" is constructed with a walnut table and stand, and has accessories for hemming, frilling, tucking, braiding, and quilting, which suits it for performing every kind of work required in the family. It may be said to be the most complete and perfect of all the machines. A hand-appliance may be had with this machine if required, so that it can be worked by hand or foot, or both. This machine is rendered very elegant by being pearled and silver plated, with an ornamented bordered table-top. The letter "B" manufacturing machines are made either with step-feed for linen goods and cloth-work, or with wheel-feed for boot-closing and flowering. This machine has all the advantages of the "Family" one, but is, of course, larger and stronger. That with the feed-step is used by seamstresses, mantle and corset makers, and for upholstery and tailoring work; while the wheel-feed is employed in boot-closing and general leather-work, and produces a very complete stitch. The letter "C" manufacturing machines are also either with step or wheel feed. The step-feed are especially adapted for tailors, wholesale outfitters, and for all kinds of heavy cloth-work. They have an extra large shuttle and long arm, giving abundance of room for the heavier work, and they sew equally well with fine cotton and with the heaviest thread on canvas. With the wheel-feed this machine is used for men's boots and the heavier grades of leather work. The letter "D," or waxed-thread cylinder machine, is held in reputation for all kinds of heavy leather work, heavy uppers, harness and saddlers' work. It has two feed-wheels, one on each side of the needle-hole, enabling the operator to sew close to either the right or left side of the material. The letter "E," or "Universal" feed and arm machine, is used for bootmaking and

repairing; the letter "F," for tailoring and outfitting work; the letter "G" is a new single-thread machine; and the letter "H," hand shuttle machine, was produced in order to meet the wishes of ladies desiring one eqnally adapted for use at home or when travelling or visiting. The company make a series of useful cases and boxes for the machines, and they are also the manufacturers of a superior kind of bicycles, kilting machines, and wringers. As indicated above, the business of the eastern hemisphere is now in the hands of the Howe Machine Company (Limited), 46 & 48, Queen Victoria Street, London, and Avenue Street, Bridgeton, Glasgow, of which Mr. N. P. Stockwell is the managing director.

TRADE NAME NIHILISM.

(By WARDER, in the *Sewing Machine News.*)

The meaner type of communist is simply a man who, having neither the property nor the skill, patience, or energy to acquire it, wishes to compel more able and successful men to share with him the fruits of their talent or labour. His creed is that by doing the race the honour of existing he has established his right to share in all good things, whether he earns them or not. To him the success of others is "monopoly," and, so far as they are concerned, "property is robbery;" and upon such premises rests the argument which justifies Nihilism with all its resultant horrors.

Now, surely, there is no property which belongs to a man so completely and unquestionably as the name he bears. Often with this for his sole birthright and heritage he enters into the battle of life, and by the brilliant efforts of genius or the patient persistence of faithful hard work records against his name a history of success which makes it precious for ever. And when a man enters into business, spends years of skill and study in introducing, making, or dealing in some special article, and by his expenditure of money, thought, or labour, earns and builds up a *reputation* in connection with that article, and educates the public to ask for *his* product or brand, so that, in fact, his name is taken as a guarantee of quality or excellence, the wisdom of all civilised nations, as embodied in their laws, has said that the reputation so earned and the name so connected with his product belong to him. This is the essence of trade name law, and a failure to declare and enforce it must put a premium on unfair dealing, discourage the honourable and enterprising manufacturer or tradesman, and strike a blow at the rights of property. *Writing* another man's name for the purpose of obtaining *money* is punished as forgery. Is the money he has earned or inherited more precious or more his own than his reputation?

Unfortunately, however, our statesmen and law-givers are sometimes tempted to seek the approval of the communistic element by joining in the unreasoning cry against "monopoly," and a nice, *cheap* bid for this kind of popularity is "Down with patent monopoly." Doubtless bad monopolies have existed and still exist, but are there no distinctions? The wisdom of our forefathers framed a patent law which gave the easier protection and the highest reward to the American inventor, and from that day to this America's supremacy in the field of invention and in the field of mechanics has never been questioned. American machinery and the discoveries of America's inventors have conquered the wilderness, and to-day aid the Western farmer, no less than the Eastern manufacturer, and in the competition with foreign products. Despite some minor abuses nothing in all our legislation has done more towards fostering the genius and accelerating the progress of our nation than the patent laws of America.

And yet a learned gentleman, holding the most honourable position of Justice of the Circuit Court of the United States, makes a decision indicating in effect that the penalty of forfeiture of trade-name attaches to the possession of a patent, and stigmatising with the odious epithet of "monopoly" a trade-name under which a world-wide reputation has been honestly earned and honourably maintained.

A decision so nearly touching the rights and reputation of every honourable manufacturer, should surely be based on a careful study, no less of the facts than of the law; and yet a brief history will show that the learned Judge's conclusions are not supported by the facts, while his notion of the law may safely be left in the hands of the United States Supreme Court to which the plaintiff has appealed.

In 1850, when from popular prejudice in favour of hand work, a sewing machine could hardly be sold, the firm of I. M. Singer and Co. commenced business. In 1863 the partners of that firm, with some of their employés, formed a joint stock corporation. In 1874 the location of the Singer Manufacturing Company was changed from New York to New Jersey. In each case the full title, including good-will and trade-name, was passed by regular and duly recorded assignments. The co-partners of Singer and Co., *i.e.*, I. M. Singer and Edward Clark, were chief share-holders in the New York Corporation, and to-day Singer's heirs hold stock, while Edward Clark is president of the Singer Manufacturing Company, of New Jersey.

Therefore, from 1850 to the present day, the business of making and selling various styles of sewing machines under the name of Singer machines, has been continuously carried on by what was practically the same concern. During all these years nothing that business energy, mechanical skill, and liberal expenditure could effect towards improving the quality and establishing the reputation of their product—the Singer Sewing Machines—was left undone; and the result is that the name Singer, applied to a sewing machine, became, at once, a recommendation to public favour and a guarantee of standard excellence.

Now, an ex-employé of this concern undertakes to use the word Singer—the *distinctive word* in their corporate title, the *personal name* of the original maker, and the trade-name under which all their products have been sold—and he goes on to advertise and sell as Singer machines the products of another party, made in imitation, or rather in fac-simile, of a popular style of the genuine Singer machines. It is taken for granted by the Court that this one—out of the score of styles of Singer sewing machines—made and sold by Singer and his associates, represents the alleged Singer system or principle. Then the Court in effect says, that because the efforts of Singer and his associates have especially identified the form and shape of this style with his name in the public mind, therefore every one could use that form and shape and call it by that name unless prevented by patent. Or, in other words, by his efforts to build up a reputation for himself in connection with a certain article of peculiar construction and appearance, he made public property of both his reputation and his name as well as the distinctive peculiarities of that article. Certainly a heavy penalty for successful enterprise.

But the Court further explains that because certain patents under which the Company were licensed, have expired; and because this work of building up a business and reputation was partially done while those patents were in force, all right to the reputation so earned must perish with the death of the patent. As the language of the decision is apt to mislead those not fully posted on the point, we may state that neither this form nor the peculiar and distinctive mechanical construction of the machine in suit were ever patented.

A horizontal main driving shaft receiving motion from a band-wheel at one end, communicating motion to the needle through a roller and "heart cam" at the other, and connected by beveled gears to the top of an upright shaft, the lower end of which drives a transverse shuttle by means of a crank and connecting rod, first appeared in the Singer A machine in 1859. Neither I. M. Singer nor the Singer Manufacturing Company ever patented any part of this combination, and, so far as they are concerned, it was open to the public from 1859 to 1877, when the last of the "Combination" patents expired. This machine, like all others, was subject to the patents of Wilson and Bachelder, owned by the "Combination," and on that slender thread the decision must hang. A mere license, covering a minor portion of the mechanism in a machine, is therefore sufficiently a "patent" to bring down upon its unlucky possessor the penalty of forfeiture of trade-name.

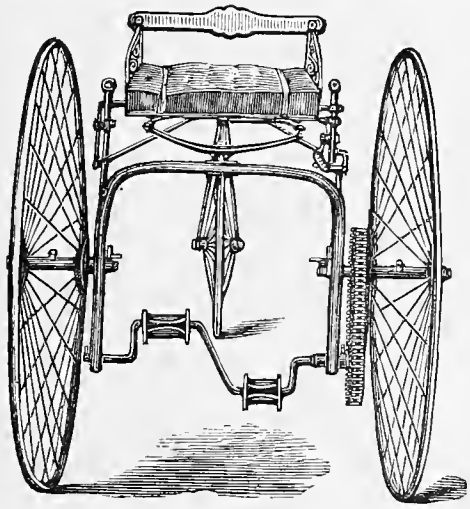
And now to what does this decision tend? If the good name and reputation of every energetic and honourable manufacturer or dealer who dares to own a patent or take a license, must lie at the mercy of the first imitator who wants to get the good will of a business without earning or buying it; if

such a blight must fall upon all industries dependent on patented or licensed articles; if there shall be hereafter no premium on the intellect of the inventor, and no reward for the skill or honour of the producers, will not the *Nihilist* rejoice and be exceeding glad? For surely, if we cannot put a penalty on the superior intellect, skill or industry of others, the next best thing is to deprive them of their just rewards; and if he cannot seize or destroy their material wealth, will he not hail with joy the fall of that outgrowth of civilisation, the property of an honourable man in his good name and business reputation?

THE "HOWE" BICYCLES AND TRICYCLES.

During the last season the "Howe" Bicycle obtained good repute as a first-class machine, so much so that the demand for them this season is greater than the supply, though the company possess unusual facilities for turning out quantities, as may be readily imagined from the description given in another column of their works at Glasgow.

The "Howe" Tricycle, of which we give an illustration, is designed on the best mechanical principles, and possesses all the latest improvements, and, like the "Howe" bicycle, is made



only of one quality, and that of the very best materials. The spokes, handles, bearings, &c., are all strongly nickel-plated, which add very much to the light and elegant appearance of the machine. Among the improvements are the simple but perfect brake, the easy steering appliance, the dust-proof oilers, the adjustable seat, with place under cushion for spanner and oil can. The "Howe" tricycles are among the best that are manufactured, and we recommend shippers and others to see them before filling up indents for A 1 machines.

Repairing Sewing Machines.—All old machines, to be put in first-class order, should be taken down and cleaned before attempting any repairs, bushing or adjusting. When a sewing machine is taken apart and cleaned you will see at a glance what is needed, and the parts can be handled so much better than when they are covered with grease and gum. Let me ask why some repairers fail to give satisfaction on the old worn sewing machine? The answer is this: they look, they try this and that, remove one of the parts, experiment for hours trying everything, in the end leaving the machine in the same condition as when brought to them. The point of difficulty is simply this—they do not fully comprehend its principles, and they expect, by trying this and that, something they do may just hit the thing and aright the cause of the trouble. In such cases, take down the machine, clean it, take up the lost motion, and put the machine together properly, and you will find it will do the work as it should be done. Of course it is not expected of the repairer to take down all machines for slight repairs.

THE CANVASSER'S DREAM.*

The roadway was dusty, the sun shining strong,
As weary, the canvasser plodded along;
His jaded old pony seemed ready to drop,
But still kept on going, too tired to stop.
"O, selling machines," said the man to himself,
"Is no easy way to accumulate pelf
In those days, at least, when the prices are low,
The payments uncertain, and business slow.
O, had I but lived in that dark, middle age,
When the sewing machine was unknown to the sage,
And the secret I owned how to make and to use,
What trades I could drive, ladies couldn't refuse,
I'd sell for cash only—no ragged edge leases
Would bulge out my pockets, but solid gold pieces!"

The thought was so pleasant, such balm to his mind,
He dropped the lines, nodding, and going it blind.
He slept, tired mortal, and dreampt a sweet dream,
Of driving his *team* by a Middle-age stream;
Before him arose, to his wondrous delight,
A Middle-age castle, with banners bedight.
"Aha!" he exclaimed, with a smile on his phiz,
"A prospect that promises excellent biz!"
He whipped up his team, pulling up at the moat,
Looked wistfully round for a bridge or a boat,
Then, not seeing either, he gave a great shout,
Awaking the warden, and bringing him out.
"Od's blood, stop your jaw, or you'll jump like a louse!
What's that—*Have we got a machine in the house?*"

A parley took place, the cigars were produced,
Which the draw to let down that warder induced.
"What taffy is this, A machine that will sew!
O, give us a rest—that's a horse that won't go!
But if, in good sooth, such contrivance you bring,
The damsels are praying for just such a thing.
This castle, you ought to know, is the King's Palace,
And next week is the wedding of sweet Princess Alice."

Then he called a bull-pup the intruder to guard,
(A canvasser's curse is a dog in the yard,)
He locked the great gate, he went up the great stair,
And blew on his bugle a terrible blare,
The chamberlain came, and the news he was told:
"He's a churl, a humbug; Mr. Warder, you're sold,
Slit his tongue with your dirk; but hold till I see
If his Majesty chooses to join in the spree."

His Majesty sat in the banqueting room,
With a keg of fresh lager moist'ning his gloom;
He heard the wild tale with a scowl of disdain,
Took a swig at the lager, and said "It was plain
The man was a varlet;" a royal oath swore,
"The sewing machine man should welter in gore."
"O welter yourself!" cried the Queen, who had heard,
"Not a hair of his head shall even be stirred,
Methinks in this matter I've something to say:
I've been sewing all night and sewing all day,
My ladies their fingers have worn to the bone,
Making over old gowns that I have outgrown,
For that slattern Alice—Not much, my old hoss!
Bring the caitiff right up; I guess I am boss!"

That settled the matter; the caitiff was brought;
His machine on his back, then Alice was sought:
The ladies were called from cellar and attic,
The father confessor, fat and rheumatic;
Tall soldiers with halberts—a martial array—
With several policemen sworn in for the day;
Cross-bowmen ferocious, and impudent pages,
And a mob of outsiders, all sexes and ages,
They all gathered around to inspect the new comer,
Some called him a wizard, some called him a bummer;
Some thought him a quack that had newly arisen,
Some swore they had seen him at work in state's prison,
The machine was, they said, a thing diabolic,
And plainly intended to bring on the colic;

*From the *Sewing Machine Advance*.

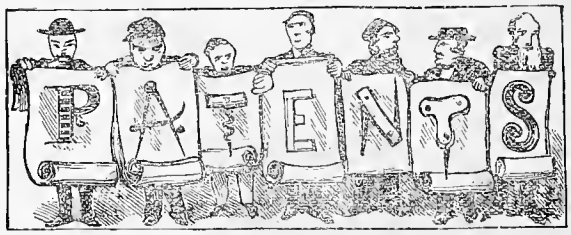
An engine of torture, another lamented,
Which Edison, doubtless, had lately invented;
While one supercilious, conceited young flunkey
Vowed 'twas a hand-organ—lacking the monkey,
They turned the wheel, and they worked on the treadle,
With the spooler and presser-foot others would meddle;
The ladies were even more curious, indeed, till
They saw the eye in the wrong end of the needle,
When they all gave a laugh, and joined in conclusion
It couldn't be aught but a snare and delusion.

"Scurvy knave," (the monarch thus sweetly addressed him,
As soon as the father had freshly confessed him,)
"I am told by my minions you claim to possess
Some device of the devil, to sew up a dress
In much quicker time than our ladies can do it;
By Jinks you must prove it, or else you shall rue it!
But I'm just to a fault, and I would not condemn
Any liar unheard that runs loose among men,
And though times have been hard, and business so lax is,
My subjects have naught I can grab for the taxes;
Though my soldiers won't fight, except for back wages,
Nor merchants been captured for ages and ages—
Yet still—though you see I can hardly afford it,
Make good your boast, and you'll be richly rewarded.
I will give you my daughter—her beauty the dower,
If you fail—you shall swing from the Donjon tower!
And, madam and ladies, take needles in fingers,
T'will go pretty rough with the female that lingers,
Give the rascal as much Flemish cloth as he chooses,
Bnd divide 'mongst yourselves as much as he uses,
Look sharp! Should he beat you, as I am a sinner,
I'll chop off your heads, every one, after dinner.
Pass the beer! my throat is so dry I would wet it;
You have heard the decree—and don't you forget it!"

Our canvasser thought the conditions were rough,
But his cheek never blenched, 'twas uncommonly tough,
At the King's pretty daughter he threw a sly wink,
Took the cloth that she gave him, and then took a drink;
Threaded up the machine with skill that was subtle,
The bearings oiled well, not forgetting the shuttle;
Then spit on his hands, and got everything steady,
Took his seat. made a bow, and shouted out "Ready!"

"Go!" cried the King, and away they go—
My! what a circle that was to sew,
Fifty hand needles shot to and forth,
The canvasser worked for all it was worth.
The seam that he sewed flew out so quick,
It made the crowd look awfully sick;
It fell from the table, it reached the floor,
And crept along to the open door,
Down the big stairs it squirmed and ran,
To the yard, and scared the black-and-tan.
The women worked on in sheer despair,
Bnt a howl of anguish filled the air,
It wormed its way to the bolted gates,
Then up the walls and over the slates,
And down through the chimney's winding flue,
Its rapidly lengthening train it drew;
Again in the banquet hall appeared,
Where the specials now were badly "skeered';
The women shrieked, the pages shouted,
The soldiers all were wildly routed,
Their captain retreated up the stairs,
The father confessor conned his prayers;
Still the machine kept sewing, sewing;
Still the long seam kept growing, growing;
The Queen in fits broke her Grecian bend,
And the King's red hair stood up on end;
The canvasser. smiling, stitched away,
And mildly asked could he have his pay?
"By my halidom now, if my head is level,"
Cried the monarch, "you are the very devil."
He yelled for the guard to come and seize him,
But they daren't come near the devil, to please him.

He yelled for the priest, but, in wild amazement,
The father had jumped through the latticed casement.
Then, howling with terror, he rose to his feet,
And went for that canvasser smiling so sweet,
And hurled him headlong, by pants and by throat,
Through the window and down to the slimy moat.
When the canvasser woke he was in a muddle,
And found himself clambering out of a puddle;
His nag, while he slumbered, had made for the clover
That skirted the ditch, and so tumbled him over.
Then he thought of his dream, as he sadly stood there,
And scraped the soft mud from his carotty hair;
And he sighed, "If such conducts as these is permitted
In the age called the Middle, I'm glad that I quit it!
Give me back, give me back the old long-winded leases,
I'll not hanker, you bet, for *such* solid gold pieces!"



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 1,075. D. Butterfield, of Keighley, Yorkshire, Iron and Brass Founder, for improvements in the construction and manufacture of caps employed in spinning. Dated March 12, 1881.

„ 1,106. W. J. Ford, of Humberston, Leicestershire, for improvements in the combination of stop mechanism with circular knitting machines. Dated March 14, 1881,

„ 1,108. G. W. von Nawrocki—a communication from R. Sehrke and Messrs. Büldge and Hildebrandt, all of Berlin, for improvements in cop spindles and appliances connected therewith for continuous spinning machines. Dated March 15, 1881.

„ 1,164. B. Hunt—a communication from J. Bond, junior, and C. M. Swaine, both of Philadelphia, Pennsylvania, United States, for certain improvements in lock-stitch sewing machines. Dated March 17, 1881.

„ 1,169. W. R. Lake—a communication from C. H. Veeder, of Plattsburg, New York, United States, for improvements in the saddles of bicycles or similar vehicles, and in supporting and adjusting devices for the same. Dated March 17, 1881.

„ 1,180. T. F. Burgess, of Dundee, Forfar, North Britain, for improvements in and relating to needles and needle slides or bars for sewing machines. Dated March 18, 1881.

„ 1,187. J. I. Warman, of Coventry, for an improvement in or relating to tricycles, which may be applied to other velocipedes. Dated March 18, 1881.

„ 1,211. H. Mills—a communication from D. Mills, of Philadelphia, Pennsylvania, United States, for improvements in button-hole sewing machines. Dated March 19, 1881.

„ 1,219. T. Tongue and T. E. Bladon, both of Birmingham, for improvements in bicycle and tricycle lamps and other lamps. Dated March 19, 1881.

„ 1,234. J. Southgate, of Shoe-lane, Fleet-street, London, and W. Smith and R. Liddell, of Ipswich, Suffolk, for improvements in propulsion of bicycles and tricycles. Dated March 21, 1881.

„ 1,239. D. Frazer, of Newry, Armagh, Ireland, for improvements in flyers for spinning and winding machinery. Dated March 21, 1881.

„ 1,264. W. R. Lake—a communication from G. B. Scuri, of Turin, Italy, for an improved velocipede. Dated March 22, 1881.

No. 1,313. J. Harrington, of Norman's Buildings, St. Luke's, London, for improvements in bicycles and tricycles. Dated March 24, 1881.

„ 1,318. C. T. Bastand, of Albany-road, Camberwell, London, for improvements in sewing machines. Dated March 24, 1881.

„ 1,385. J. Clayton, of Bradford, Bobbin Manufacturer, for improvements in bobbins employed in drawing, finishing, and roving frames. Dated March 29, 1881.

„ 1,431. W. Morgan-Brown — a communication from H. Schwerer, of Werdova, Saxony, for improvements in knitting machinery. Dated April 1, 1881.

„ 1,467. S. C. Straker, of Bishopsgate-avenue, London, Manufacturing Stationer, for an improved apparatus for registering the distance travelled by bicycles, tricycles, and other carriages, or the number of revolutions made by machinery. Dated April 4, 1881.

Letters Patent have been issued for the following:—

No. 3,848. H. Mills—a communication from D. Mills, of Philadelphia, Pennsylvania, United States, for improvements in sewing machines chiefly designed for leather work. Dated September 22, 1880.

„ 3,897. E. Clements, of Great Russell-street, London, for improvements in washing machines and apparatus combined therewith. Dated September 25, 1880.

„ 3,910. H. Woodward, of Regent's Park, London, for a new or improved combined knife-cleaning and sharpening machine. Dated September 27, 1880.

„ 3,966. F. Wolff—a communication from A. Hellig, of Little Ferry, New Jersey, United States, for improvements in pianofortes and other stringed musical instruments. Dated September 30, 1880.

„ 4,018. J. M. Smith, of West Bromwich, Staffordshire, for improvements in and relating to exercising apparatus analogous to bicycle or velocipede riding, and for recording or registering the equivalent to the mileage or distance performed. Dated October 4, 1880.

„ 4,088. R. H. Charsley, of Oxford, for improvements in or connected with tricycles. Dated October 8, 1880.

„ 4,108. F. Mitchell, of Openshaw, near Manchester, Mill Manager, and J. Mitchell, of Southport, both in Lancashire, Draper, for improvements in pickers and stoppers for looms. Dated October 9, 1880.

„ 4,114. G. W. Hawkesley, of Sheffield, and W. Lumb, of Wakefield, Yorkshire, Crabber, for improvements in machinery for crabbing, squeezing, and finishing woven and knitted fabrics. Dated October 9, 1880.

„ 4,137. G. Illston, of Birmingham, Manufacturer, for improvements in or additions to sewing-machines. Dated October 12, 1880.

„ 4,430. S. Keats, of Leeds, Machinist, and A. Keats, of Worship-street, London, for improvements in sewing machines. Dated October 29, 1880.

„ 4,706. S. Thacker, of Nottingham, for improvements in the manufacture of certain kinds of cloth in circular knitting machines and in such machines, and in the arrangements of parts thereof. Dated November 15, 1880.

„ 4,767. H. Weatherill, of Cheetham, Manchester, commercial traveller, for improvements in bicycles, tricycles, and other wheeled vehicles. Dated November 19, 1880.

„ 4,797. C. A. Barlow—a communication from J. Wiget, of Arbon, and C. Wetter, of St. Gall, both in Switzerland, for certain improvements in machine embroidery, and in the process for manufacturing the same. Dated November 20, 1880.

„ 5,432. J. Harrington, of Norman's Buildings, St. Luke's, London, for improvements in tricycles, part of which is applicable to bicycle and other bearings. Dated December 24, 1880.

„ 41. J. and H. Kiddier, of Nottingham, Hosiery Machine Makers, for improvements in knitting-machinery. Dated January 4, 1881.

„ 419. G. W. von Nawrocki—a communication from R. Schrke, and Messrs. Büldge and Hildebrandt, all of Berlin, for improvements in continuous roving, slubbing, and spinning frames. Dated February 1, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 979. R. J. Rae, of Hampstead, London, for improvements in velocipedes, partly applicable to other vehicles, and to machines. Dated March 11, 1878.

„ 1,007. W. R. Lake—a communication from J. E. Folk, of Brooklyn, New York, United States, Merchant, for improvements in sewing machines. Dated March 13, 1878.

„ 1,034. R. Curtis, Machine Maker, and W. H. Rhodes and J. Wain, Foremen, all of Manchester, for improvements in machinery for preparing, spinning, and doubling. Dated March 15, 1878.

„ 1,058. W. Fairweather, of Manchester, Engineer, for improvements in sewing-machines. Dated March 18. 1878.

„ 1,090. W. Heath, of Crabb's Cross, near Redditch, Worcestershire, Manufacturer, for improvements in machinery for smoothing and polishing the eyes of needles, the thread holes of shuttles, and other parts of sewing-machines, and the barbs of hooks used therewith, and of crochet-hooks. Dated March 19, 1878.

„ 1,137. J. Harrington, of Ryde, Isle of Wight, for improvements in bicycles and tricycles. Dated March 21, 1878.

„ 1,149. E. Simpson, of Mansfield, Nottinghamshire, for improvements in the construction of bicycles and other velocipedes. Dated March 22, 1878.

„ 1,199. J. H. Smith, of 436, Euston-road, London, for improvements in velocipedes. Dated March 26, 1878.

„ 1,022. W. Storer, of Nottingham, Engineer, for improvements in machinery and apparatus for washing, scouring, wringing, and mangling. Dated March 24, 1874.

„ 1,042. G. Davies, Consulting Engineer, and W. Lees, Sewing-Machinist, both of Manchester, for improvements in fringing fabrics, and in the construction of apparatus therefor, part of which improvements is applicable also to the manufacture of fringe, and part to ordinary sewing-machines. Dated March 25, 1874.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

		s.	d.
No. 2,944.	W. E. Partridge, apparatus for washing clothes, &c.	0	6
„ 2,966.	J. H. Johnson, sewing machines, &c.	0	8
„ 3 008.	W. R. Lake, knitting machines	0	8
„ 8,076.	E. and L. J. Crossley and W. Sutliffe, spinning, &c.	0	6
„ 3,141.	S. Pitt, thread cases and under tensions for sewing machines	0	6
„ 3,143.	H. W. Pohlmann, pianofortes	0	6
„ 3,148.	C. Cresswell, knitting machines, &c.	1	4
„ 3,215.	W. Goode, machinery for bleaching, scouring, and cleaning	0	6
„ 3,252.	J. Clough, spinning or drawing machinery ...	0	6
„ 3,286.	J. H. Johnson, spinning machinery	0	6
„ 3,299.	J. Booth, machinery for spinning fibres ...	0	2
„ 3,304.	F. Mann, washing machines	0	2
„ 3,334.	A. Storer, apparatus for overhead sewing ...	0	2
„ 3,347.	W. R. Bull, apparatus for carrying luggage on bicycles, &c.	0	6
„ 3,458.	W. Clark, combined clothes washer and wringer	0	6
„ 3,524.	J. Beresford, machinery for polishing silver, knives, forks, &c.	0	6

"A NEWSPAPER PROPRIETOR" has written to the *Times* to say that the Government, in permitting postage stamps to be used for receipt stamps must be prepared for a great loss of revenue. It would not require a great amount of ingenuity to convert imperfectly defaced stamps, taken from envelopes, into passable receipt stamps. Every day a person who has much correspondence would find among his letters a certain number the stamps of which have been defaced so slightly that, if the stamps are used afterwards for receipts the defacing marks could be concealed under the writing, which must be put on a receipt stamp. There are a great many mean and dishonest persons in the world, but surely this is an imaginary danger!

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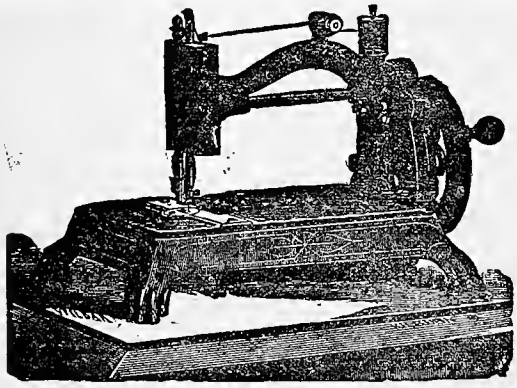

We have added the loose winding wheel and all latest improvements.

THE BEST TREADLE MACHINE IS THE

Light Running "Standard"

For Manufacturing and Family use.

Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.

IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

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The most Elegantly Ornamented Machine in the world. Lasts a lifetime, and NEVER gets OUT of ORDER. EXCELS ALL OTHERS IN THOROUGHNESS OF WORKMANSHIP.

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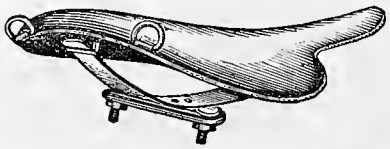


C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

Price List Free on application to the above,

ALMA STREET,

Aston New Town, Birmingham.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

WE have heard the inquiries put several times recently—"Where is the British Sewing Machine Trade Association? and what is it doing?" These inquiries, we observe, generally proceed from a few people who have been stupid enough to expect that the gentlemen who formed that Association would lend some amount of support to the advocates of that very questionable system of business, which proposes to disregard one of the commonest rights alike of individuals and trading corporations, namely, the right to their own fairly earned trade reputation. To such inquiries we would simply reply, that the Sewing Machine Trade Association never has had the remotest intention of lending any aid whatever to the extent even of a single sixpence to assist in the development of such a policy as we have lately seen pursued by certain continental houses having agencies in this country. We speak from a personal and intimate knowledge of the views of the large majority of those who compose the Association, when we say that they view with utter disfavour the system of business which such houses are attempting to introduce into this country, and that they would withdraw their connection from the Association should such a policy ever find favour in its midst. The Association was formed for the protection and development of the English sewing machine trade, not for its spoliation and degradation. Its leading members are gentlemen who have their own trade name and trade repute to take care of and protect from petty larceny, and they have not yet come to believe in a policy of piracy and false pretence. Whenever any question shall arise affecting the interests of the English trade, it will be found that the Association is quite equal to protecting the interests of its members, but these interests never have been, and never can be, identical with those who filch a trade name with as little compunction as a

rogue displays when he steals linen off a hedge, or a purse from the pocket.

THERE is an opening in connection with the Sewing Machine Trade which has been on offer for some time past, and which promises considerable scope to any person possessed of more brains than conscience, the post in question being the Editorship of a new journal to represent the interests of that happily small section of the Trade who still persist in using other people's names to designate their goods by. These eccentric folks consider themselves illused because no existing Trade Organ will allow them to ventilate their very peculiar notions of *muum* and *teum*—either by way of advertisement or otherwise—and they resolved, we believe, nearly a twelvemonth ago to run a new Journal, which should support their want of principle, and enlighten the Trade upon their entirely new code of mercantile morals. The hour for doing this they feel has come, and all they now need is the man and the money. It will, of course, require a very fair amount of the latter, for nobody expects that such a venture could ever, by any chance, pay its own expenses. The game has been tried once and again, but never with any other result than a heavy financial loss; but the chief want of all is the man. He must be able to prove that the abolition of the eighth Commandment would, on the whole, be a boon to society, and that honesty is the worst of all possible policies. He must be an adept at showing how nearly a rogue may touch the confines of legal fraud without actually over-stepping the boundary line which leads to the criminal dock and the felon's prison. He must forget that there can be such things as honour and rectitude in commercial transactions, and he must expect to be bullied and brow-beaten if he attempts to express a single opinion contrary to the views of the persons in whose interests he engages to write. Such are the needful qualifications. The berth is open—the salary is moderate—the duties easy, if the candidate is utterly devoid of common honesty. Where is the man who will accept the post?

WE would direct the attention of our readers to an interesting article by "Warder" in the *Sewing Machine News*, entitled "Trade Name Nihilism," which we have thought worthy a place in our columns, and which will be found in another page. It has been written anent Judge Treat's decision in the recent case Singer Manufacturing Co. v. Stannage, a suit for the alledged violation of plaintiffs' trade mark. The bill was dismissed at plaintiffs' cost, but an appeal was immediately taken by the plaintiffs' counsel to the Supreme Court of the United States, and as the case holds some analogy to one yet undecided in the English Law Courts, the result will be looked forward to with much interest.

WE are sorry to note the failure of so large a firm as Messrs. Thomas and Taylor, of Stockport. The washing machine trade has been comparatively free from these disasters, at least so far as the wholesale manufacturers are concerned. For further particulars we refer our readers to our "law" columns in another page of the journal.

EXHIBITION OF DOMESTIC LABOUR-SAVING APPLIANCES.

At the close of the above Exhibition it was resolved by the exhibitors to show their esteem for the General Manager, Mr. Charles Messent, and their sense of his courtesy and energy, by presenting him with a testimonial.

A committee was accordingly formed for the purpose, and on the 14th ult. a deputation, consisting of five of the principal exhibitors, waited upon Mr. Messent, and, in the name of the rest, presented him with a valuable gold watch and chain. The watch bore the following inscription:—

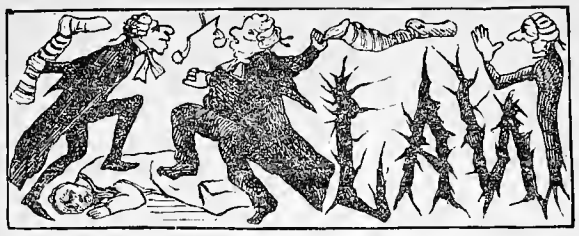
"Presented to Charles Messent, Esq., General Manager of the Domestic Machinery Exhibition, Agricultural Hall, March, 1881, by the exhibitors, as a mark of their esteem."

The Treasurer, in making the presentation, referred to the successful issue of the Exhibition, and to the large amount of satisfaction felt by the exhibitors, to which Mr. Messent responded in suitable terms.

OUR ILLUSTRATED SUPPLEMENT.

THE HEBERLING RUNNING STITCH GUAGING MACHINE.

This machine, of which we gave a short notice in our January issue, is manufactured by the Heberling Running Stitch Sewing Machine Company., of Mount Pleasant, Ohio, U.S.A., and whose chief office and depôt in Europe now is 46, Cannon-street, London, E.C., which is close by Cheapside and Queen Victoria-street, where all the leading sewing machine companies have their depôts. The trimmings now so much in vogue and known as the "Mother Hubbard" style, for dresses, costumes, mantles, and waterproof ulsters for ladies, can be produced by this little machine, with an elegance and precision far surpassing anything that can be done by hand, at the rate of 2,500 stitches per minute, or 5,000 when both needles are use; consequently it will do as much work in the same time as twenty persons can by hand. The principal movable parts of the machine are pinion-bar, plate pinion, needle-wheel, needle-wheel stud, plate-pinion stud (which is fastened with a set-screw under the plate), pinion-bar set-screw, cloth-spreader, cloth-spreader set-screw and thimble connecting with needle-wheel stud and guage. As with the assistance of this machine the most beautiful gauging, gathering, and tucking can be made on material varying from heavy velvets to the most delicate silk tissues, with regularity and speed, the agent will at once see that one at least will be indispensable in every dressmaker's workroom, whilst manufacturers of costumes, mantles, and underclothing, to which it is peculiarly adapted, will go in for quantities upon seeing what it will accomplish. In size the Heberling Running Stitch Guaging Machine is somewhat smaller than an ordinary sewing machine, with length of arm sufficient for all purposes; and can be readily attached to any table, and worked either by hand or foot. The machines are handsome in appearance, finely finished, and tastefully ornamented; all bright parts are nickel-plated. The company have received numerous testimonials as to the merits of the machine in practical use, all speaking very highly. One lady says:—"Permit me to say from experience that I regard the Heberling Guaging Machine as indispensable to every milliner and dressmaker. It does the work well and thoroughly, and at great saving of time and labour. It is calculated to meet a great want in the trade, and I can cordially recommend it." And a firm of large manufacturers write:—"We are using your Guaging Machine in our factory; it supplies over a hundred hands with their guaging, thus greatly reducing the cost of our goods." We understand that machines are being ordered every day by West-End and City houses, and are giving every satisfaction. It is well perhaps to mention that all the parts of the Heberling Machine, including the needles, are covered by the patents granted in the United States, Great Britain, and throughout Europe.



ALLEGED THEFT OF A SEWING MACHINE.

At the Sunderland Borough Police-court, on the 5th of April, Peter Wilson Cochrane, said to be a private detective in the employment of the North-Eastern Railway Company, was charged by Henry Charles Askwith with stealing a sewing machine, value £5.—Mr. Bell appeared for the prosecutor, and Mr. Crow, jun., for the prisoner.—Mr. Bell said though the prosecution had been perfectly justified in taking these steps, he did not now propose to offer any evidence.—The Bench said they were not satisfied, as a warrant had been issued for the apprehension of one of the witnesses (Williams). They expressed a wish to hear the evidence.—From the statement of Mr. Bell, it appeared that the prosecutor carries on business at Newcastle as the proprietor of a sewing machine depot, and has a branch establishment in Nile-street, Sunderland, of which John Young, 46, Tatham-street, is the manager. On the 15th March last, the prisoner went to the shop in Nile-street, and was supplied with a sewing machine and some oil-cloth and other things. The conditions upon which he was supplied were that a premium should be paid down, and that the articles should remain in the hirer's possession at his own address until the whole of the purchase money was paid, and that until the whole of the money was paid the hirer should only be considered bailee of the articles. The prisoner signed these conditions, and the machine was supplied him at his residence at No. 3, Hartley-street. On the following day the prisoner came to the shop and said the machine suited his wife very well. In consequence of what the manager, Mr. Young, heard, he went to the prisoner's house on the following Monday, when a week's payment would be due, but could not gain admission. Several times during the week when met by Young, the prisoner said he would call and pay the instalment, but he did not do so. On the Friday, the manager found the machine in the house of a person named Herring, and on the Monday morning it was in the house of Williams. In the meantime, the prisoner had told the manager that he would deny ever having had the machine.—Cross-examined by Mr. Crow: The witness Young said the prisoner was not drunk when supplied with the machine, though they had a glass of beer each. Prisoner did not then tell him that he was changing his place of residence, but he had since told witness that he had gone to reside in Moor-street. Since the agreement was signed, witness had asked the prisoner to sign a stamped agreement, but he had refused to sign it, saying he would call at the shop and do so.—Mr. Crow said he wished to show that this was a case for the county court, and not for the police-court.—By Mr. Bell: It would not be necessary for a person changing from Hartley-street to Moor-street to go through the street where the machine was found.—John Williams, machine broker, St. Mark's-street, Millfield, deposed that the defendant said to him on the 17th March last that he had a sewing machine, and that he was very hard up. He was very much the worse for drink at the time—in fact, he was pretty well drunk. That would be before nine o'clock in the morning. Witness thought defendant was too much the worse for liquor to have anything to do with him, so he left him, remarking that he would see him at the Prospect Hotel, where he was then going. Detective Elliott was passing at the time. He afterwards saw defendant at the public-house, and as he said he was very hard up, he advanced him 30s. on the machine, and took away the machine in a cab. He would have taken 5s. profit on it if the machine had been for sale. Mr. Askwith came a week after and wanted the machine, and he said he could have it for £2 5s. Witness wanted his expenses out of it. He ultimately gave the defendant an order to take the machine away. Cross-examined: He could not say exactly whether the 30s. which he gave the defendant was a loan on the machine, or whether it was a purchase. Of course if he had not come for the machine, he would have sold it. He often did business that way.—George Herring deposed that he was at the Prospect Hotel, Hartley-street, when defendant and last witness were there. Williams offered to lend 30s. on the machine. The machine was not sold so far as he was aware.—Defendant pleaded not guilty, and Mr. Crow said he did not intend to call any witnesses for the defence.—The Bench committed him to take his trial at the next Sessions at Durham.—The Mayor said the Bench could not but express their censure on Mr. Askwith for having tried to compound this felony. Under no circumstances should he have done so, and they were astonished that for one moment he should have allowed this case to be passed over without being tried. They hoped if he had anything of this kind in future he would let the law take its course.—Mr. Crow asked the Bench to allow bail, and they agreed to accept the defendant's own recognisances for £50 and two sureties of £15 each.

INFRINGEMENT OF PATENT OF A CRIMPING MACHINE.

HILL V. TOOMBS.

The Master of the Rolls had before him on the 12th ult. an action for an injunction to restrain infringement of a patent for a crimping or trimming machine for the manufacture of articles of ladies' dresses. The plaintiff invented his machine in 1878, and on applying for a patent found that a portion of the process had been invented and patented previously. He therefore altered his specification and obtained a patent. Of late he discovered that his patent was greatly infringed. The defence was that the plaintiff's patent was bad, that it was a combination of already known processes, and that the plaintiff claimed not for a combination, but for an invention.—Mr. Aston, Q.C., Mr. Webster, Q.C., and Mr. Carpmael were counsel for the plaintiff; and Mr. Horace Davey, Q.C., Mr. Lawson, and Mr. Chadwick Ely for the defendant.—His Lordship held that the objection was fatal, and gave judgment for the defendant.

IN RE THOMAS, TAYLOR, AND FIELDING.—In this case an application was made to file a petition in liquidation, and expedition was necessary.—The debtors, who traded as "Thomas and Taylor," were laundry and dairy engineers and machine makers at Fonthill-road, Finsbury Park, and at Manchester and other places in the North, and estimated their liabilities at £11,500, but the assets at present could not be ascertained.—Mr. Biddle stated that he had to apply to the court for leave to file a petition, in consequence of objection, raised in the liquidation department. Though the debtors traded at Finsbury Park, they were in business at Manchester, Salford, and other places. His firm had been instructed to file a petition in the London Court of Bankruptcy, and that morning the documents, which had been prepared at Manchester, arrived in town. When taken to be filed, the Liquidation office declined to accept the same, as there was no evidence whether the parties had or had not had prior bankruptcy or liquidation, and as the practice was strict on the matter a special application to the court was necessary.—Mr. Registrar Murray asked whether an understanding would be given to file the necessary evidence.—Mr. Biddle undertook to give the required undertaking. In answer to the court, he said he did not know of a prior petition; and to search the files would occupy some time, and the present proceedings would be rendered nugatory.—His Honour acceded to the request, and ordered the petition to be filed.

HENRY BATE, SEWING MACHINE DEALER, STOKE-ON-TRENT.

A meeting of the creditors of Henry Bate was held on the 26th March, at the office of his solicitor, Mr. Wilson, Stoke-on-Trent. The unsecured liabilities were stated to be £626 8s. 6d., and the secured £25, the assets amounting to £60 18s. 2d. An offer of 1s. in the pound was rejected, and liquidation was resolved upon. Mr. Stubbs was appointed trustee, with a committee of inspection, and Mr. Wilson was

requested to register. Among the creditors are:—Beardmore, J., Stoke-on-Trent, £6; Bishops' Cluster Company, London, £6 6s.; Bostock, T., Burslem, £17; Brassington and Cooke, Manchester, £13 14s. 10d.; Chatterley Iron Company, £7 6s.; Cooke, R. and Co., London, £13 6s.; Cresswell, W. H., Stoke-on-Trent, £140; Harrison, W., Manchester, £28 14s.; Howe Machine Company, £59 18s.; Littleton, Hon. C. J., Penkridge, £100; Leadley, G., Stoke-on-Trent, £19 1s.; Manchester and Liverpool Bank, £8; Medina, E., Stoke-on-Trent, £8; Morris, C., Manchester, £5; Oldacre, T., Stoke-on-Trent, £8; Sellers and Allen, London, £32 6s.; Stubbs, T., Fenton, £25; Taylor and Wilson, Accrington, £7 10s.; Union Bank of Manchester, £28; Varley and Wolfenden, Keighley, £11 15s. 5d.; Wade, P., Stoke-on-Trent, £5; Wright and Son, £5 12s. 8d; Weston Coyney Colliery Company, £5 7s.

Liquidations by Arrangement.

Large, Edward, Saltley, near Birmingham, and Cato-street, North, Birmingham, bedstead manufacturer (separate creditors). March 22.

Lockwood, John, Wakefield-road, Dewsbury, late sewing machine agent. March 22.

Talbot, John, Cato-street, North, Birmingham, bedstead manufacturer (separate creditors). March 22.

Gibson, Robert George, late Hull, ironmonger. March 26.

Graham, Joseph, Eagle House, Curwen-street, Workington, ironmonger. April 2.

Grant, Thomas Charles, High-street, Watford, ironmonger. March 24.

Boe, William, Westgate-road, Newcastle, ironmonger. April 21.

Bills of Sale.

Appleton, Cornelius Lyde, Shepton Mallett, Somerset, ironmonger; £200. In favour of Abraham Collins. Filed March 25.

Harrison, Thomas, 5, St. Nicholas-street, Lancaster, ironmonger; £46, &c. In favour of National Mercantile Bank. Filed March 30.

Smith, William Edward, deceased (by Maria Parrott Smith, his widow, and another), Bridge-street, Isleworth, ironmonger; £250, absolute sale. In favour of George R. Smith. Filed March 31.

Ward, Sophia, 122, Dale-street, Liverpool, ironmonger; £73, &c. In favour of Liverpool Investment, &c., Co. Filed April 8.

George, William, 67, High-street, Poplar, ironmonger: £35, &c. In favour of Isaac Cohen. Filed April 13.

Part, Thomas Richardson, 94, Standishgate and 4, Mill-gate, Wigan, Lancashire, ironmonger; £165, &c. In favour of Woolf Levy. Filed April 11.

Griffiths, Wiliam, 22, Stanley-street, Holyhead, Anglesey, ironmonger; £70, &c. In favour of Thomas R. Jones. Filed April 22.

Smith, William, 15, Middle-street, Brighton, ironmonger, gasfitter, &c.; £64, &c. In favour of Moses Phillipps. Filed April 21.

County Court Judgments.

Birtwistle, Kenyon, 30, Canal-street, Clayton-le-Moors, Lancashire, machine dealer £13 17s. March 10.

Birtwistle, Hilton, 16, Ellis-street, Burnley, Lancashire, machine dealer; £13 17s. March 10.

Kneale, George, 320 & 322, Mill-street, Liverpool, ironmonger; £11 10s. March 8.

Allen, J., 10, West Bridge, Leicester, ironmonger; £10 5s. 2d. March 12.

Smith, John, 36, Clifton-street, Roath, Cardiff, ironmonger; £42 3s. 5d. March 14.

Ward, B., 111, Newington Butts, ironmonger; £11 13s. March 16.

Barrett, Wm., Barrow, Lancashire, ironmonger; £21 12s. March 18.

Crosskey and Son, Market-street, Lichfield, Staffs., ironmonger; £20 5s. 11d. March 12.

Farrant, James, 50, Artillery-place, Woolwich, ironmonger; £12 5s. 7d. March 23.

Greene, Andrew B., 7, Moorgate-street Station-buildings, ironmonger; £11 7s. 6d. March 29.

Perks, William, trading as Wm. Perks and Co., Ingleby-street, Spring-hill, Birmingham, bedstead manufacturer; £22 10s. 7d. March 15.

Dissolutions of Partnership.

Bowers and Cook, Wolverhampton, manufacturers of bicycles. March 28. Debts by Thomas Bowers.

Hillary and Co., Teal-street, Mape-street, Bethnal Green, washing machine manufacturers. February 19.

Holmes, J. L. and Son, Sutton, ironmongers. March 17. Debts by Arthur Rundell Holmes.

Hope and Harrison, Gloucester, ironmongers. March 19.

Luke, John and Co., Dartmouth, ironmongers. March 18. Debts by W. B. Luke.

Miller, Bros., Old-street, Shoreditch, fixture and mangle dealers. March 25.

THE DRUMMER, OR AMERICAN COMMERCIAL TRAVELLER.

There are few, indeed, outside of the commercial world, who are intimately acquainted with the seemingly brilliant life of the average travelling salesman, and none without practical experience can realise the most essential qualities necessary for success on the road. Notwithstanding, the general impression prevails that any one, with ordinary business capabilities, may readily become a successful drummer. That this idea is wholly incompatible can be seen from the fact that not only must a drummer be an excellent judge of human nature, at the same time possessed of much ready wit and a smooth tongue, but above all, great discretion in knowing when and how to use them.

In engaging a representative for the road, the utmost care is exercised in selecting a man who can fulfill the following requirements: neatness, honesty, sobriety, perseverance, patience, and besides, what is of greater importance, amiable under all circumstances. In fact, as near perfection as it is possible for a human being to attain. Hence the limited number, among the great army of drummers, who are in any way competent to represent a firm on the road and assume the responsibilities.

The average drummer, and more especially the young men, are careless and extravagant, and even regarded by many as being privileged characters, devoid of principle, whose only ambition, and, in fact, sole occupation, consists in sitting in a large arm chair in front of some hotel, with a cigar in his mouth, and winking at the pretty girls.

Whatever faults the drummer possesses can be attributed to the influence of temptation such a calling affords. A man continually travelling has no home life, and everywhere he makes himself at home. Many imagine the life of a drummer a pleasant one. True, there is a certain charm in going from place to place and coming in contact with various kinds of people. Many incidents are encountered, and travelling abounds with adventures. After a few years of roaming, however, the charms disappear. All that was interesting or amusing begins to wane, and the drummer's life grows monotonous. It is then that he appreciates the comforts of a permanent home, and only pursues travelling in order to satisfy his appetite and passions.

The drummer seldom waits for an introduction, and when one drummer meets another they exchange cards, and, providing they are not in the same line, become friends. As a rule, the drummer is a jovial, good-natured, entertaining fellow, but, withal, he frequently suffers abuse and humiliation at the hands of uncivil merchants, who take delight in treating him with indifference, and even contempt, informing him in the most abrupt manner that "mercantile tramps" are not welcome, and a few go so far as to announce their meanness on a placard hung up in some conspicuous place. The experienced drummer gives not the slightest notice to such rebuffs, for he holds that forbearance is the sublimest courage, and tenacity the greatest virtue.

Not long since business called me to Council Bluffs, Iowa,

where I never had occasion to stop before. On entering the store of a prominent merchant, I was informed by one of the clerks that the proprietor sat in the rear, perusing a paper. I advanced towards him, and on seeing me he deliberately arose, adjusted his eye-glasses, scrutinised me from head to foot, sat down again, and resumed reading. I approached, wished him a good morning, and expressed my surprise at his conduct.

"I know you were a drummer," was the reply.

"Pardon me, kind sir; a commercial tourist, if you please."

"Well, what do you intend to bore me with?"

"Sir, I am a stranger in a strange city. I am the representative of one of the largest and most extensive drug manufacturers in America, and have taken the liberty to call in hopes of being welcomed to your beautiful city, and also to make a few inquiries regarding several parties who desire to purchase our wares, but if my presence is annoying I beg a thousand pardons for the intrusion."

"My young friend, give me your hand, and forgive me; but really these drummers (commercial tourists, if you please) have so provoked me of late that I swore they ought to be exterminated. Pray be seated, and if I can atone for my rudeness by being of any service to you, I shall consider it an honour. Do you anticipate remaining in Council Bluffs over Sunday? If so, I should be most happy to have you visit me, and I will endeavour to make it as pleasant as possible for you."

"I regret exceedingly to decline your kind invitation, but I am booked for Omaha, where letters await me."

"Oh, but I insist upon your remaining, and will have your letters attended to. Come, now, what do you say?"

"Well, I will consent on one condition, and that is if you will promise to purchase a bill of shirts from me."

"But you informed me that you were selling drugs."

"Pardon me, I will explain. I did not think my line were drugs until arriving in the city, when I learned to my sorrow that the merchants had just returned from market and had purchased their stocks, and that shirts were indeed a drug. Now, sir, you can be of service to me by walking to the hotel to inspect our new-fangled, self-ventilating, concave and convex, double seam, re-inforced ——"

"Stop, young man; I have been in business during the past twenty years, and this is the first time I have been taken in. I will go to the hotel with you and purchase a bill of goods, although I am overstocked. Come and take a drink."

PROCKTER'S METALLIC DOOR MAT.

This invention resembles in appearance the ordinary Tubular Indiarubber Mat, but it possesses the advantages of greater solidity, durability, and strength. Being formed of iron, thickly coated with zinc, it is extremely durable, is not affected by exposure to wet, and will not warp or lose its original shape. For churches, chapels, hotels, shops, schools, country houses, public and other buildings, it is invaluable. The dirt removed from the boot falls into the cellular spaces, and on lifting the mat it can be readily swept away. The manufacturer is Mr. W. Prockter, ironmonger, Launceston, Cornwall.

THE ZEROMOTOR.

Prof. Gamgee has made a discovery, which is to revolutionize all the accepted theories in connection with motive power. Mr. Isherwood, the chief engineer of the United States Navy, has recommended his department to give Mr. Gamgee the opportunity to try his new motor in the Washington Navy-yard, and the engineering world on this side of the Atlantic is awaiting the result with some degree of interest, not to say impatience. It is well known that liquid ammonia is vaporised under pressure at the average temperature of the air in warm climates, and, in vaporising, it, of course, acts somewhat in the same way as steam, and may be used to propel a piston in a cylinder. Consequently it can be utilised as a motive power; but, until Prof. Gamgee promulgated his views, no one dreamt that it could be used without the aid of fuel as a motor for war vessels and other ships that are now propelled by steam. Full details of the discovery are withheld, but the fact that the Chief Engineer of the United States Navy has lent the weight of his name to the scheme gives it a certain importance, and those who would unhesitatingly denounce it as a resuscitation of the perpetual motion snare are awaiting further particulars before they condemn the new "zeromotor." The practical test, however, will effectually determine its value.

THE INVENTION OF THE STOCKING LOOM.

When the crude state which every branch of the mechanical arts was in previous to the sixteenth century is taken into consideration, it may be claimed for William Lee's invention of the stocking loom that it was one of the most extraordinary examples of mechanical ingenuity that has ever been achieved.

In every other process of weaving various threads are made either to intersect or to twist round each other, in order to bind or connect them together to form the web, but in stocking weaving, in its simple form, only one thread is used, and it is by this alone that a series of loops are made, in such a manner as to intersect each other, and thereby form the looped fabric which is the distinguishing feature of this system of weaving.

Respecting the life of William Lee, many conflicting accounts are given. It appears that he was born at Woodborough, in Nottinghamshire, but as the parish register only commences in 1547, it does not contain an account of his baptism.

In 1833 Dr. Ure, assisted by Mr. Felkin and other gentlemen of Nottingham, made a thorough inquiry respecting the history of the Lee family, and all information that could be obtained about Lee and his invention. Unfortunately nothing of importance was added to what was already known; but the Doctor gave his opinion that the following is the more probable statement of the case:—

"It is an ancient tradition around Woodborough, his birthplace, that Lee in youth was enamored of a mistress of the knitting craft, who had become rich by employing young women at this highly-prized and lucrative industry. By studying fondly the dexterous movements of the lady's hands, he became himself an adept, and had imagined a scheme of artificial fingers for knitting many loops at once. Whether this feminine accomplishment excited jealousy or detracted from his manly attractions is not said; but his suit was received with coldness, and then rejected with scorn. Revenge prompted him to realise the idea which love first inspired, and to give days and nights to the work. This ere long he brought to such perfection that it has since remained without essential improvement, the most remarkable stride in modern invention. He thus taught his mistress that the love of a man of genius is not to be slighted with impunity."

After many failures in obtaining a patent, Lee went to France, taking his machines with him, but he died in Paris in 1610, before establishing his business. During his illness, Mr. James Lee, a brother of William, who was at that time at Rouen, where it was intended to carry on the manufacture, went to Paris, but he found on his arrival that his brother was dead and buried. On his return to Rouen he, with seven of the workmen who had gone with them from England, returned to London, taking with them the machines they had brought. These machines were set up in Old-street-square, and became the foundation of the London Hosiery Manufacture. The machines were sold, and Mr. James Lee went to Nottingham, for the purpose of making more. He found out one of his brother's old apprentices, named Aston, who was at the time in business as a miller. They joined in partnership, and began making new frames in 1620.

From this period the business rapidly extended, and in 1657 the Company of Stocking Weavers, or "Frame Work Knitters," obtained their charter. London, Godalming, and Nottinghamshire were the chief seats of the trade. Some slight improvements had been made in the construction of the machine from the time of Aston's, but it was not before the middle of the next century that various additions were made to the frame by means of which considerable changes were made in the fabrics produced.

TRICYCLING BY STEAM.

(BY AN OCCASIONAL CORRESPONDENT.)

"Go and see the steam tricycle at the Agricultural Hall." Such was the advertisement in glaring red letters that met one's eye on most of the omnibuses some few weeks back. I went one morning early, and by chance found in the gallery the inventor, Sir Thomas Parkyns, enjoying the soothing weed and silently contemplating his machine.

"This machine," said Sir Thomas, "I invented for the purpose of conveying myself and my photographer's apparatus from place to place."

I said, "I thought the machinery should not be in so conspicuous a place; besides it was rather in the way."

"Don't you be too much in a hurry," said Sir Thomas. "I have heard hundreds make the same remark. I did not make this machine for the public, but for myself. If I put the engine under the seat where would my photographer's apparatus go?"

These few words of conversation between myself and the baronet will suffice to explain that which has puzzled all who have seen the machine—why the engine was not put under the seat instead of in front on the left hand side. The tricycle to be made for the public will be of lighter construction than the one exhibited and working with an oscillating cylinder to each large wheel, and will retail at £45.

The following is the description of the patent in the inventor's own words:—

I alter and enlarge the frame work of the ordinary tricycle by placing the third or hind wheel a little further to the rear; and in order to transfer the strain of this hind wheel to the middle of the same I place a forked rod, the fork of which I attach to the axle of the said hind wheel, and the other end I attach to the frame of the tricycle, and in the space so made available between the seat of the rider and the hind wheel I place a tubular boiler for the purpose of generating steam for driving the steam engine. This boiler is adapted for burning liquid fuel, such as paraffin, rock oil, or other volatile oils in the following manner:—I place on or near to the boiler a tank containing the liquid fuel, from the bottom of which tank a pipe is carried underneath the boiler, and is then sent back in a ⊃ shape and closed at the end. The top side of the lower half of the ⊃ tube is perforated with small holes to allow of the escape of the gases which are generated in the upper half of the ⊃ tube by the heat of the burning liquid fuel and gases escaping through the perforations in the lower half. A tap on the pipe near to the liquid fuel tank regulates the glow of the the liquid. In some cases I prefer to volatilise the liquid fuel by placing a small burner under the tank instead of using the ⊃ tube, and I then conduct the inflammable gases which are generated in the tank under the boiler, and allow them to escape through small holes in the pipe, where they burn, and thus generate steam in the boiler. The steam from the boiler is expanded in one or more steam cylinders, the piston rods of which are connected either direct to the axle of the large central wheel, or if preferred by means of gearing or straps in the manner well understood by engineers. In certain cases I fit a surface condenser to the engine, composed of small thin tubes. The boiler and engine are covered in by a light wooden or metallic case, and over the top may be placed a light box or locker, in which may be carried any tools, or stores, or wearing apparel. It is obvious that the above apparatus for propulsion is readily applicable to all other descriptions of vehicles.

Before we see the steam tricycle common in our streets, lawyers will have to decide whether it shall be legal to ride one or not. The inventor has been served with six summonses for riding his machine in the open street. The magistrates of Greenwich fined him 1s. in each case, giving him leave to appeal to a superior court, which it is certain he will do.

"YOU must cultivate decision of character and learn to say 'No,'" said a father to his son. Soon after, when his mother told him to shovel down some coal, the boy said "No" with an emphasis which showed a remembrance of the lesson.

APPARATUS FOR CLEANING, BLACKING, AND POLISHING BOOTS AND SHOES, &c.

Mr. Thomas Lever, of Nelson, near Burnley, Lancaster, has obtained provisional protection only for "Improvements in apparatus for cleaning, blacking, and polishing boots, shoes, and other articles." This is a simple machine which will effectually clean and polish boots and shoes. The inventor thus describes his invention:—

On a suitable frame or stand I employ three sets of circular grooved or hollow brushes carried on suitable spindles; the brushes are carried at the one end of their spindles by cranks or arms, at their other ends by wheels or discs. The bodies of the brushes I make preferably of india rubber, in which are fixed the bristles; the spindles of each brush are made telescopic, that is to say, to slide into each other, so that by means of shafts with right and left hand threads, worm and worm wheels, the brushes can be expanded or contracted at the will of the attendant, according to the sizes of the boots or shoes to be cleaned. The middle brush being the blacking brush it has a suitable receptacle for the blacking, and a number of teats at intervals to distribute the blacking. The supply of blacking can be stopped or regulated by a shield inside the centre brush, which cuts off the communication with the teats. The machine may be worked either by treadle, hand, or motive power, and by means of a number of pulleys and bands. The brushes revolve at a great velocity; the cranks also slowly revolve and carry the brushes and spindles around with them, and bring them into operation successively, or as required.

The action is as follows:—The boots are placed upon the hands of the attendant, and held under and in contact with the first brush, which brushes off the dirt from the front part of the boots or shoes; the boots are then placed between the first and second brushes, so that the second brush blacks the fronts of the boots, whilst the first brush cleans off the dirt from the heels or hind parts of the boots; the boots are then placed between the second and third brushes; third brush comes into operation and polishes the front part of the boots, whilst the second brush is blacking the back parts of the boots; are then placed over or behind the third brush, which polishes their back parts. The whole operation of thoroughly cleaning a pair of boots with this apparatus taking but one minute.

Any class of boots may be cleaned with this apparatus, and any portion of the boots as required.

MELBOURNE INTERNATIONAL EXHIBITION.—Messrs. S. Thomas and Sons, British Needle Mills, Redditch, have received the first award at this exhibition for sewing machine needles. Messrs. H. Milward and Sons have been awarded first class awards respectively for needles, fish-hooks, packing needles, and surgeons' needles. They were also awarded a second-class for salmon flies. Messrs. W. Woodfield and Sons, Easemore Works, were also awarded a second order of merit for sewing needles. Mr. Chas. A. Rickards, sewing silk manufacturer, of Bell Busk Mill, has been awarded the first order of merit for twist and reel silk.

SHOPKEEPERS and others will please take notice that a forgery of Bank of England £5 notes has been discovered at Sheffield. The note is dated "May 19, 1880." The engraving is wonderfully perfect, even to the microscopic marks, which are known only to the initiated. The fraud is apparent from the absence of the water-mark. Otherwise the note would easily deceive.

SO NEAR, AND YET SO FAR.

The boy stood on the gallery floor
At the naughty female show;
And cast his longing glances o'er
Bald-headed sin below.

"I'm too far back," he sadly said,
Yet dared not forward go,
For he saw his aged father's head
First in the foremost row.

APPARATUS FOR CLEANING AND POLISHING BOOTS AND SHOES.

Mr. C. Mattison, of Hammersmith, has obtained provisional protection only for improvements in machinery or apparatus for cleaning and polishing boots and shoes. This invention has for its object the construction of simple and effective apparatus for polishing boots and shoes in an economical and effective manner. It consists in a stand or platform fitted with a hinged last or lasts, which can be adjustable in their sizes, or various sizes can be placed in position. The boot or shoe to be cleaned is placed on this platform with the last inside, and held in position by a cramp or otherwise. By throwing back the last on its hinge the foot with the boot on can be placed on the platform and the cleaning then performed. A lever is arranged swivelling on a centre underneath the platform and furnished with removable curved brushes, the distance between which can be adjusted to suit the size of the boot or shoe to be cleaned. One of these brushes operates on each side of the boot or shoe by having a reciprocating movement (analogous to hand brushing) imparted to it by a pin crank, or other device, from the main shaft. This shaft actuates by mitre, friction wheels, or their equivalent, a rotating brush pivoted on a horizontal axis which cleans the "upper" or front part of the boot or shoe. A standard carrying a driving wheel is fitted to the stand, and this wheel actuates the main shaft by an endless belt or other device, the relative sizes of the pulleys being advantageously three to one. The various brushes can be made removable to allow of the different operations of brushing, blacking, and polishing, and one may use a rotary blacking brush to be held by a handle and operated by a flexible shaft from the main axle, so as to be applied to every part of the boot or shoe on the last or stand. To assist in polishing more quickly, the inventor can arrange a small fan actuated from the main shaft, which can be heated by a small lamp, or otherwise, and furnished with a pipe and mouthpiece, so that warm air can be blown on the boot or shoe after the blacking is put on. This will materially shorten the time of polishing when large numbers of boots have to be polished. The speed of the fan and quantity of air is readily adjustable, and the fan or the sets of brushes are arranged to be thrown in and out of gear as required.

DOMESTIC ECONOMY CONGRESS.—A meeting of the general committee of ladies of the above congress was held at the Society of Arts on the 27th ult., Sir H. Cole, K.C.B., in the chair. Among those present were: The Countess of Airlie, the Viscountess Haberton, Lady Charlotte Schreiber, Lady Blanche Hozier, Lady Cole, Mrs. Cotton, Mrs. Floyer, Mrs. Grenfell, Mrs. Hollond, Mrs. Lecky, Mrs. Mann, Mrs. Peploe, Miss Cole, Miss Hooper, and Miss Fay Lankester. Lord A. Churchill, Major-General Cotton, C.S.I., the Rev. J. Faunthorpe, and the Rev. N. Price, members of the executive committee, were also present. Nine candidates were elected members of the congress. The committee discussed the details for the opening of the congress by a *conversazione* at the Royal Albert Hall towards the end of June.

BICYCLE GOSSIP.

(BY AN IDLER.)

The favourable change in the weather which has occurred during the past month has made glad the heart of most bicycle manufacturers, for they are now busy executing orders, while retailers of these articles are experiencing a good steady trade. Coventry, Wolverhampton, and many other towns are now turning out great quantities of these iron steeds for both home and export trade.

At Coventry the other day, I learnt that Messrs. Warman, Laxon, and Co., who, by the bye, have taken into partnership Mr. Aslatt, have, with a view of increasing their business, taken possession of some good premises known as the Albion Mills. I wish them success in their enterprise. Messrs. Hillman, Herbert, and Cooper are, I hear, making a new tricycle which will shortly be placed on the market. This machine will drive both wheels; steer in front, turn on the front, and at the same time be very light in construction. I was sorry to learn that Mr. James Starley, of Starley Bros, is very ill. I believe he is shortly to undergo an operation. All who know him will wish him safely through it. When down the East of London the other day, I noticed a new firm of bicycle manufacturers had suddenly sprung into existence. What class of machine they make I cannot say, but I shall soon go and play Paul Pry. What about the steam tricycle? How will the lawyers decide this important question? Will Sir Thomas Parkyns have to be preceded with a man and a red flag like a steam roller? I hope the judges will have had a good breakfast or luncheon, for on that depends entirely the state of their temper, and on their temper the decision of the case.

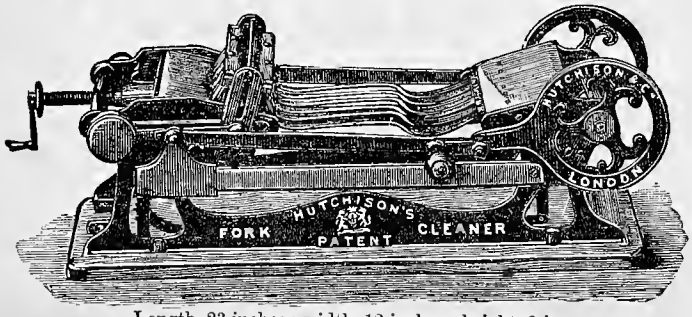
MR. G. BADDELEY, sewing machine agent, of 25, Church-road, West Brighton, writes us for the addresses of a few good wholesale perambulator manufacturers. We leave the trade to answer him.

Mr. C. W. SENAUR (who has the European agency for the Heberling running stitch sewing machine) represents also almost every description of American manufactures. Shippers and large buyers will do well to inspect the varied stock of samples at the warehouse, 46, Cannon-street, E.C., which include specialties in agricultural implements, machinery, axes and edge tools, carriages and materials, ship chandlery, boots and shoes, shoe pegs, nails and tools, woodenware, clocks, sewing machines, lampware, cigars and tobacco, safes and pumps, patent medicines, chairs and furniture, glassware, India rubber goods, stationery, jewellery, druggists' sundries, canned goods, toys and novelties, kerosene and other oils.

"UNCLE, what is the hardest lesson you ever had to learn?" asked a young lady of a veteran statesman known for his strong prejudices. "That the man who differs from me not only in opinions but in principle may be as sincere and honest as I am," was the reply.

"MA," said a little boy, looking up from an illustrated paper, "I wish I was a little South Africa boy." "Why, Georgie?" asked his ma. "Why, 'cause their mothers don't wear slippers," he feelingly replied.

HUTCHISON'S PATENT FORK CLEANING MACHINE,



Length, 23 inches; width, 12 inches; height, 9 in.

Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

N.B.—This Machine is the greatest preventative of damage to which the prongs are exposed when cleaned by hand.

HUTCHISON'S PLATE POWDER,

As used in the Patent Fork Cleaning Machine. For cleaning and brilliantly polishing all kinds of Plate, Plated Articles, Metal, Tin, Pewter, Looking Glasses, &c. To be had at Oil and Colour Warehouses, and of Ironmongers and Storekeepers.

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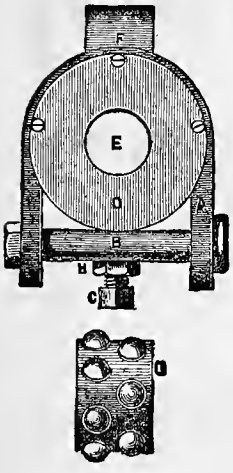

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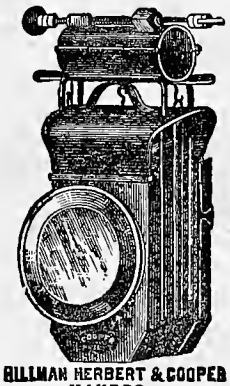

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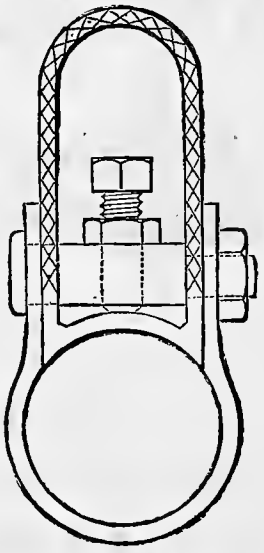

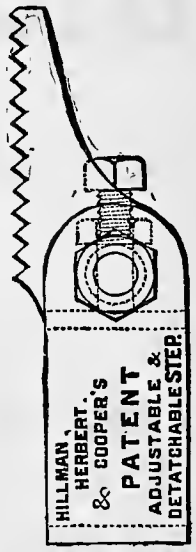

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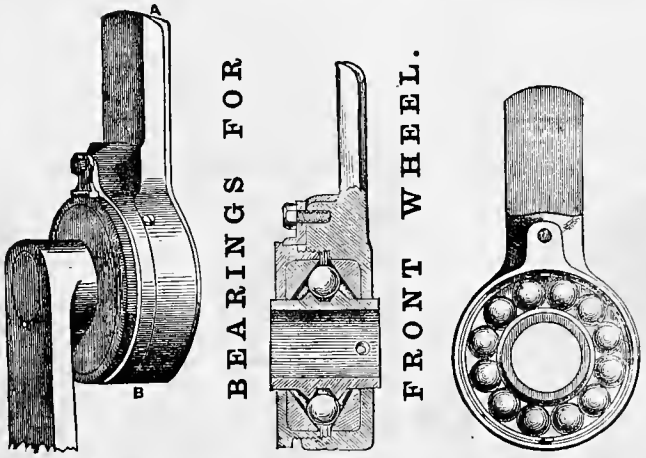

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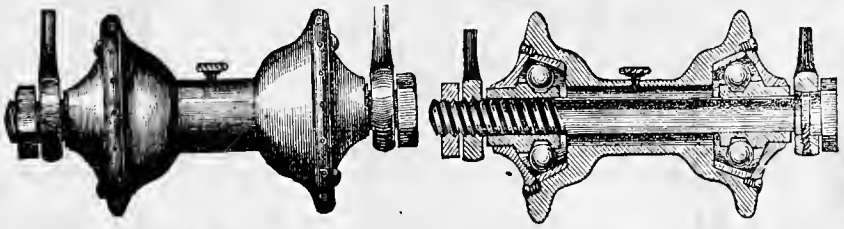

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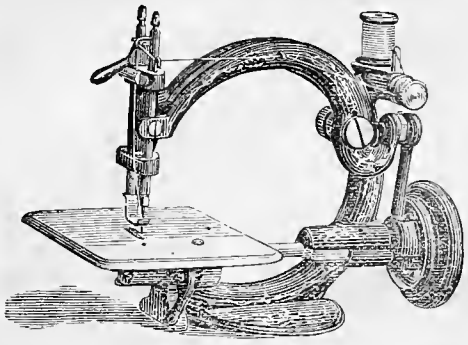

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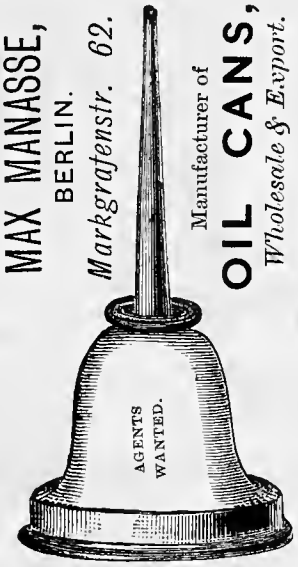

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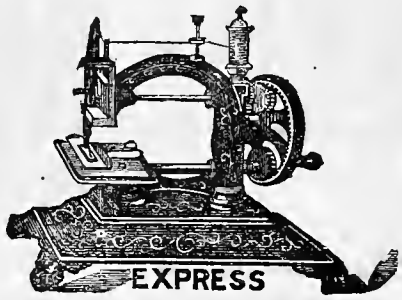

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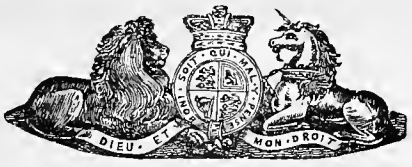

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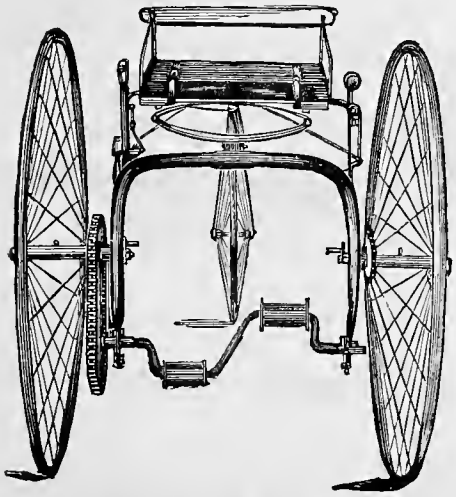

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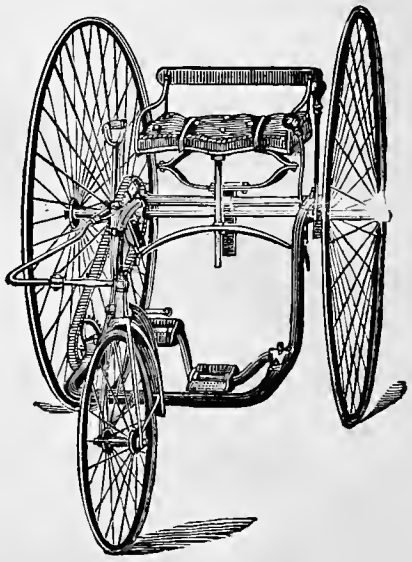

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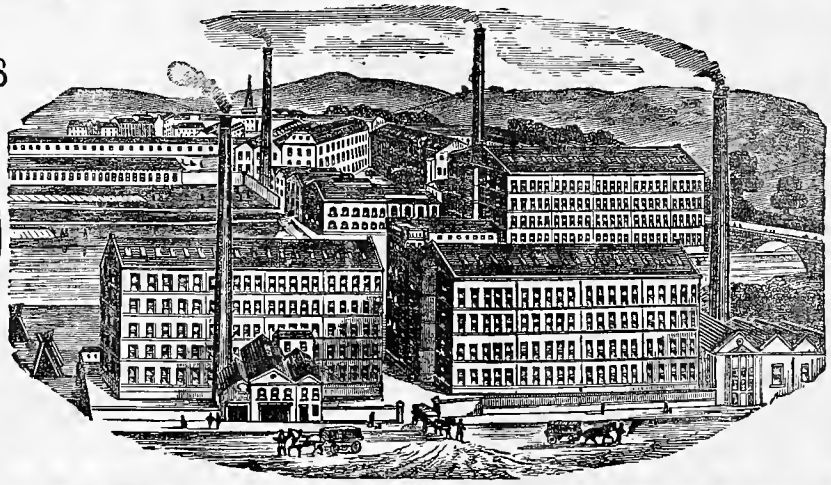

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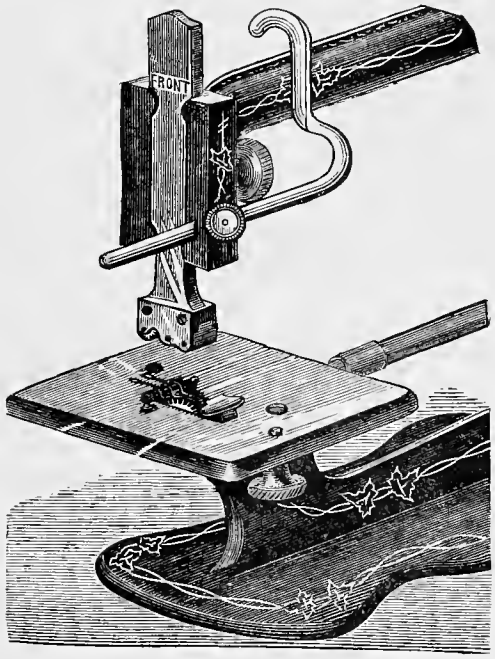

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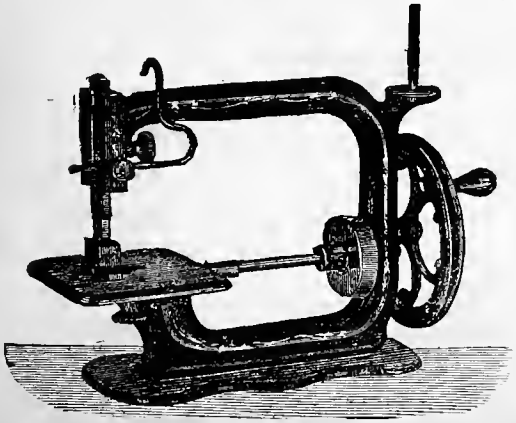

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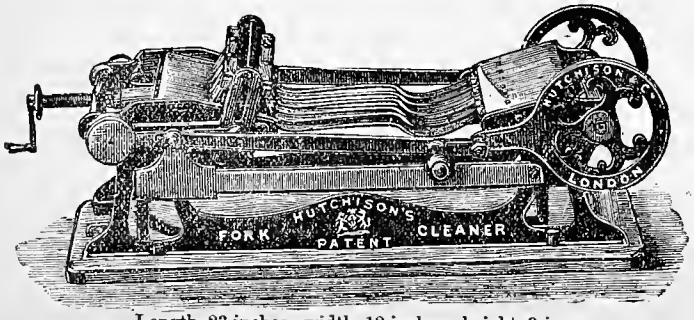

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Huddersfield, 8, New-street
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Huntingdon, High-street
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Lancaster, 19, Brock-street (corner of Penny-street)
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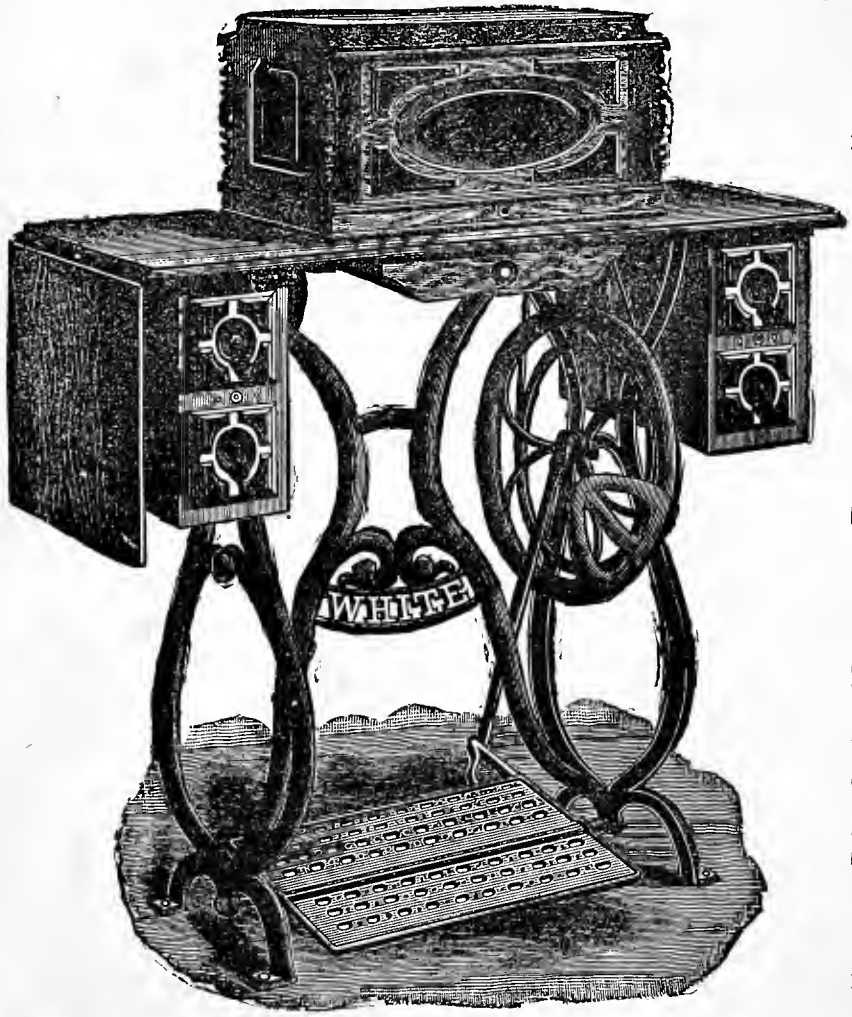


SUPERLATIVE

Machines for all work. 12 various styles. | IN THEIR | Every machine Warranted for 5 years. Legal guarantee.

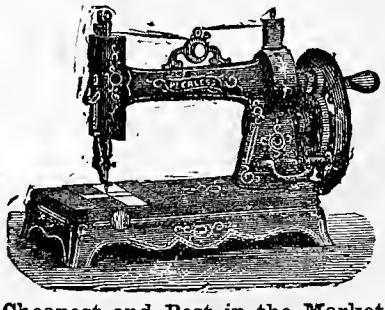
ATTRIBUTES.

IT IS THE FINEST FINISHED AND BEST MADE MACHINE IN THE WORLD.

IT IS THE EASIEST-SELLING AND BEST-SATISFYING MACHINE EVER PRODUCED.

The Peerless Hand Machine.

Price £3 12s. 0d.



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Cheapest and Best in the Market. Warranted for 3 years.

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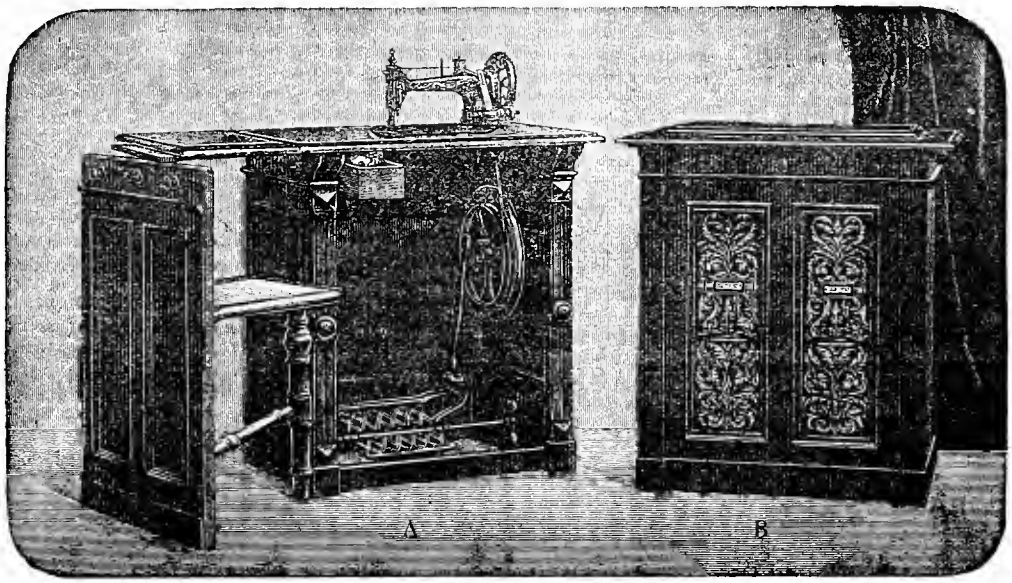
Factory of Sewing Machines and Sewing Machine Cabinets.

Oak waxed or walnut polished, plain or with elegant Intarsia Ornamentation, or with fine Oil Paintings on Gold Ground.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN {Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

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Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE,

Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
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SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom.

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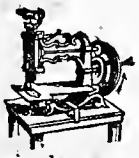
CANADIAN SEWING MACHINES.



£2 2s. Complete.

This Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—James G. Weir, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. Charles Raymond.

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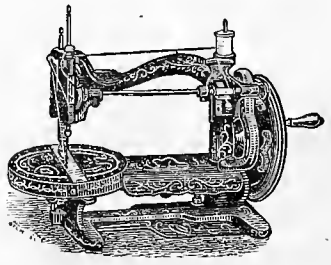

£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

ALSO

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers.

AGENTS WANTED.

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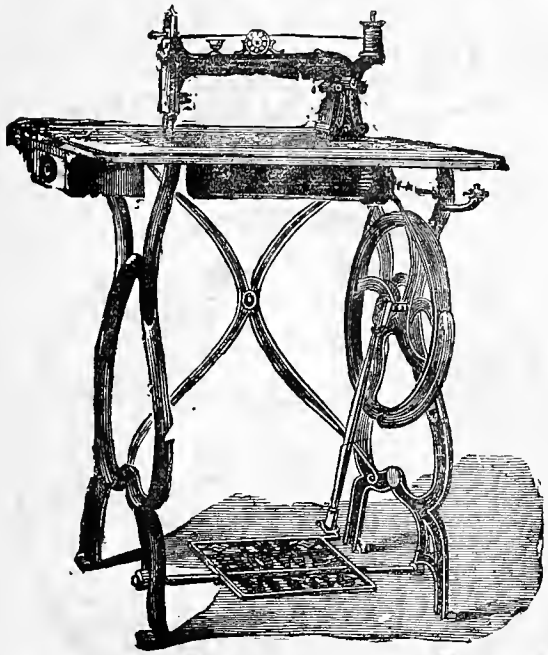
P. FRANK, AGENT. ESTABLISHED 1863.

THE ELIAS HOWE SEWING MACHINES



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EXPRESSLY FOR BOOT & SHOE MAKERS,

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Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

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HOLROYD'S NEW PATENT KILTING MACHINE

Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled excellence.

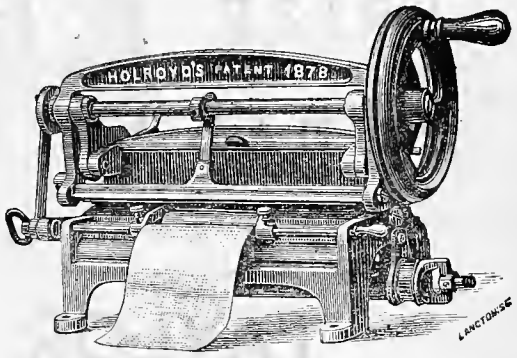
THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

It will make any kind of kilt desired, from the narrowest to an inch wide, and any depth up to ten inches, and can be altered to different styles and widths immediately, and in a most simple manner.

It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



Price, complete with gas arrangements and 4 heating irons, £3 3s.

ELECTRO-PLATNIG BY STEAM POWER, AND DYNAMO ELECTRIC MACHINES,

Combining all the latest improvements in **GILDING, BRONZING, &c.**, on rough or smooth surfaces, on any kind of metal goods.
Special Terms offered to Manufacturers of articles suitable for plating.

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PATENT SEWING MACHINES.

	NETT CASH, by the Half Doz. RETAIL.	WHOLESALE.
The Celebrated **"TAYLOR FRICTION" Improved...**	£4 14 6	£2 0 0
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"TAYLOR'S PATENT," No. 3 (Treadle)	6 10 0	3 0 0
The **"COMMERCIAL FAMILY MACHINE"** [S]	5 5 0	2 15 0
The **ditto** Hand **ditto**	4 4 0	2 0 0

Mangles and Washing Machines at full Discount. MOTHERSILL'S **Patent BICYCLES** $33\frac{1}{3}$ per cent. off List Prices. Lists of Prices free on application.

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The Trade and Shippers (only) Supplied.

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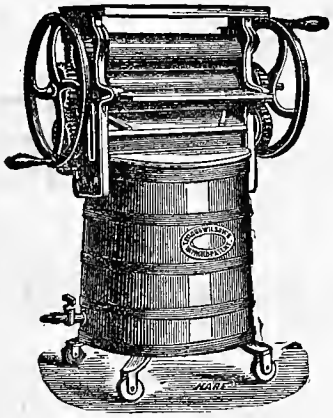
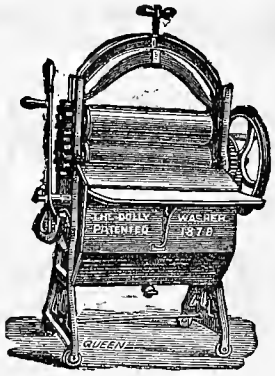


Price, £6 : 6 : 0.



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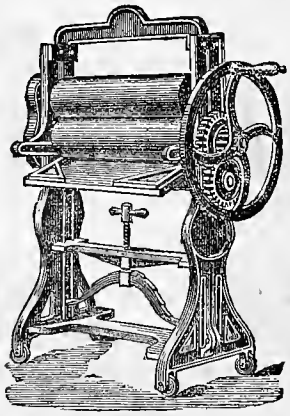

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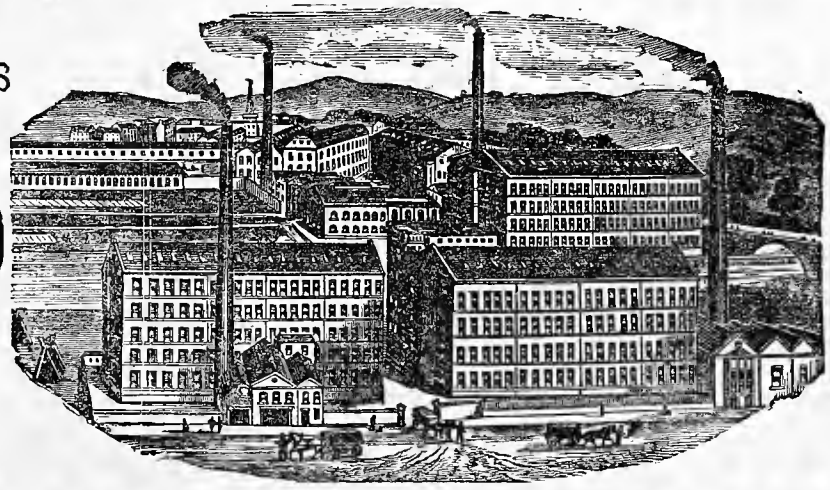

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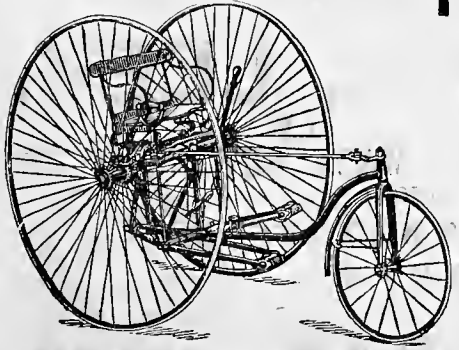

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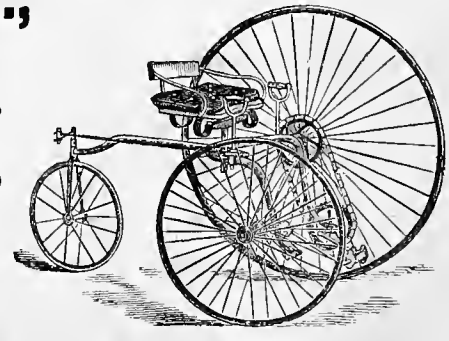

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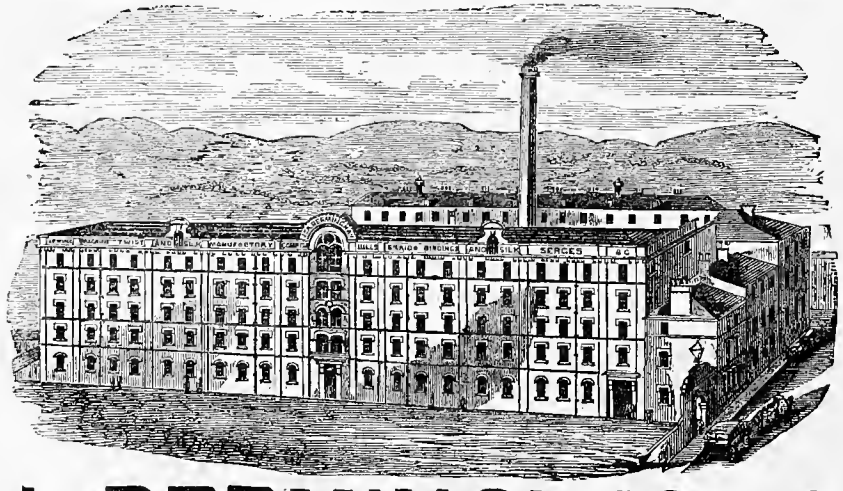

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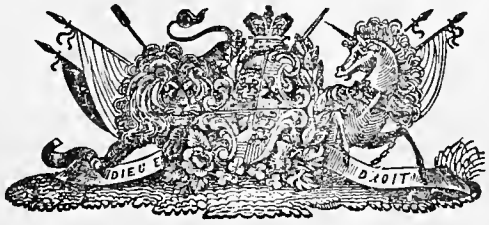

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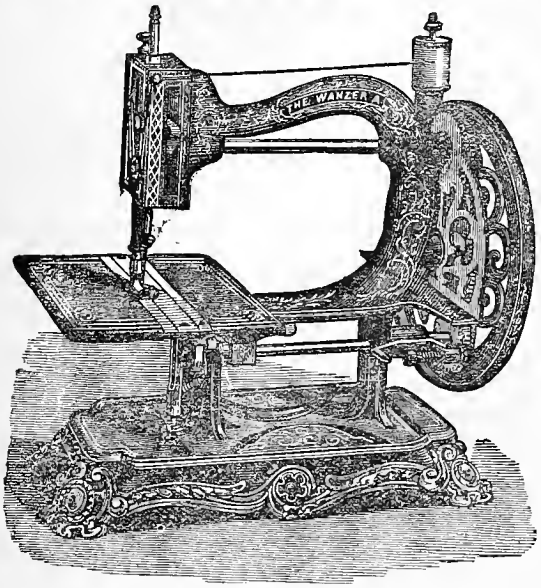

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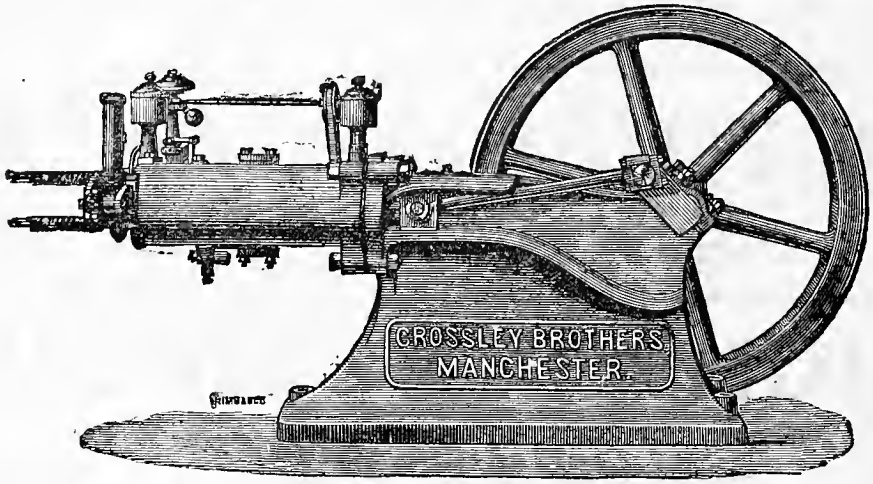

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THE "FAVORITE" TRICYCLE FOR 1881.

This Tricycle is manufactured by Messrs. Timms & Co., of Coventry. In it the rider sits between the equal sized wheels, the third or steering wheel being behind. The front wheels are fitted with their new adjustable bearings, adjusted in a similar manner to the steering wheel, which reduces the friction to a minimum, and does away with all side shake which is a great annoyance when the wheels are on parallel axles. The bearings of the driving crank are parallel, and arranged to work in a slide for the adjustment of the driving chain. The material and build of the machine is the same as in 1880, except the bearings; each machine is fitted with adjustable cushioned seat, rubber pedals, oil-can, spanner, and lamp brackets; all small parts being highly polished, other parts neatly painted in two colors. The price (retail) up to 40-in. is £14 14s. Another favorite tricycle manufactured by the firm is the "Coventry Perfection," which differs entirely in construction from any other tricycle, being so arranged that all wheels run on their respective axles which is very beneficial to the rider, as no action of the legs is required in descending declines, both pedals remaining stationary and forming the foot-rests, the machine is propelled at the will of the riders by means of small levers working in a circle of ratchet teeth, which are enclosed in the hubbs of both driving wheels, the front wheel is fitted in a fork which works in a socket similar to that of a bicycle, and runs on hardened steel cones which are adjustable, the guiding handle is on the right hand side of the machine and works the steering rod by means of a rack and pinion, the brake is very powerful and applied by a handle on the left hand side, by the downward pressure of the brake handle a strong steel band is drawn tightly round the flange of the hubb, thus enabling the rider to pull up the machine on a decline in a few yards. The seat is mounted on two light and elastic steel springs and can be adjusted and detached, the pedals are of india rubber and connected to the driving cranks of machine by two tubular rods with screws working up their centres, for the purpose of lengthening or shortening the throw to suit different lengths of leg—when this is required to be done take out the bolt that holds the end of the treadle levers to connecting rod and lower the screws equally, and then place back the bolt, this will throw the pedals nearer the seat to suit a shorter person, the body of the machine is constructed of steel tubes, light, strong and rigid, the wheels are made with lock-nutted spokes, but the direct spoke wheels can be fitted if preferred, the connection from front wheel to back of frame is of weldless steel tube, carried low and fitted with neat step for convenience in mounting. These machines are well adapted either for ladies or gentlemen, the levers working direct from the centre beneath seat, the dress is not soiled or raised when ridden by a lady as in other tricycles, and there is no danger of the dress being caught and torn as is the case with tricycles driven by a chain; the seat may be brought forward so as to place the rider more erect and give better command over the machine.

VELOCIPEDES, &c.

Mr. Henry John Lawson, of Coventry, engineer, has received provisional protection only for "Improvements in velocipedes, and in the application of motive power thereto, such improvements being also applicable to tram cars, traction engines, and other road locomotives." The inventor thus describes his invention:—

My invention consists of certain improvements in velocipedes which are partly or completely propelled by motors, and machinery connected therewith, having for their principal object the construction and arrangement of these machines in such a manner that the carriage of an engine, or motor for self propulsion, with its necessary accompanying machinery, may be rendered practicable with less inconvenience to the rider (from the extra weight, bulk, and strain, when the engine is not working, and has to be propelled solely by his efforts), by the application and use of compressed gas for fuel and motive purposes. My invention further consists of the application, construction, and arrangement of a gas engine, combined with certain alterations in the various details of the velocipede portion, whereby loss of power, friction, and weight, are reduced, while strength is at the same time added to such portions of the machine as the framing wheels, &c., for sustaining the increased strain. The engine is bolted down to a platform, which is suspended to the frame by iron stays. It is vertically arranged, and the crank has two toothed wheels fitted suitably upon it for changing the speed, the teeth running into those of corresponding wheels upon cranked shaft carrying the large wheel of tricycle. At the will of the rider these toothed wheels may be slid into or out of position, so that the machine may be propelled either with or independently of the engine power. In the rear of the machine a reservoir of welded iron is situated, supported upon iron stays bolted to the frame of tricycle for containing compressed gas at a high pressure, but one opening answers both for the egress and entrance of the gas, which has first a valve or box of bulletts through which the gas passes to the furnaces or cylinder, and then is connected to an air pump which serves both to exhaust and compress the gas. This is performed by the engine itself, the heating being done by gas from an ordinary main should there be no pressure in the reservoir. In the case of the engine being worked by gases, or a mixture of gas and atmosphere, the same arrangement applies for the starting of the compression suitable burners being constructed. The jet which carries the light to cylinder is suspended elastically to absorb the jar. In the act of compression the piston of pump is connected with the driving shaft by a connecting rod and toothed wheel, which may be thrown out of gear at pleasure. The tank is fitted both with pressure and vacuum gauges, and the pump has a series of taps for connecting either the exhaust or force valve with inlet. In other details the usual methods of working with a mixture of air and gas are followed, but by the application to velocipedes of this system of using the combustion of compressed gas for fuel and motive purposes a great advantage is gained over the use of coal and other fuel and its inconvenient carriage. The piston is forced up by the ignition and explosion of the gas, and thus propels the machine by acting upon the driving axle in the way and manner described, or by an action similar to the well-known silent feed clutch, ratchets, &c., as now used in velocipedes.

THE NEW FRENCH TARIFF.

A return has just been published showing, in a comparative tabular form, the alterations proposed under the new general French Tariff. The return is preceded by the following official description of the effects of the proposed alterations:—

The changes made in the new French general tariff, as compared with the present conventional tariff, are, broadly speaking, of two kinds, namely—1. Increase of about 24 per cent. in the duties now levied specifically on many important articles or British produce and manufacture; and 2. Conversion into specific duties of the *ad valorem* rates hitherto charged, also with an increase in many articles of 24 per cent. With regard to the increased duty, it will be noticed that 24 per cent. equals the amount of the two additional tenths (*décimes de guerre*) which have been levied under the general tariff, plus the 4 per cent. additional imposed in 1873; and it was stated in the Government "'Exposé des Motifs," in the introduction of the new Tariff Bill in 1878, that this increase was chiefly intended to give a margin for reduction in negotiating treaties. Besides these two distinct changes, there have been a few decreases of specific duties, which are, however, more than balanced by increases larger than the prescribed 24 per cent., and several new duties have been imposed. The conversion of the *ad valorem* rates has necessarily led to many more separate classes of goods being enumerated, and even with these elaborations the incidence of the new duties must be very unequal on the cheapest and dearest articles which come into the same category for duty. As regards particular articles which are imported into France from the United Kingdom in any quantity, an increase in the duty on bed feathers and down may be noticed, and a duty on lobsters. Sponges unprepared are to pay less, and prepared more than formerly. Rice has been freed from duty. On stone and slate we find new or increased rates on most descriptions. In metals, on the other hand, there are several deductions under steel rails and plates, brown hot-rolled, but the

duties on iron and steel—2f. per 100 kilos. on pig-iron, and 6f. on iron and steel rails—still represents a very heavy *ad valorem* tax on these articles. The duties on minor chemicals have been mostly converted from *ad valorem* to specific rates, apparently raising them in several instances; and in the various sodas, the rates, which were before specific, have been increased by about 24 per cent. As regards some colours, specific duties have been substituted for *ad valorem*, and there are a few new duties. Scented soap is now taxed double the former rate, and the duties on other perfumery are also increased. Starch pays four times as much as the old duty.

Turning to beverages, the duty on all spirits has been doubled and that on beer has been increased as compensation for hops being more heavily taxed.

As regards earthenware and china, the *ad valorem* duties have been converted into specific rates, with a greater number of subdivisions, and the same thing has been done in glass and glasswares, where the increase is apparent in the few cases in which the former duties are specific.

Coming next to yarns and textiles, a new classificatiou in linen yarns renders comparison difficult, but the additional duty is lesss than 24 per cent. in the lowest numbers, and as much as 50 to 100 per cent. in the highest numbers. Jute yarns show nearly the exact 24 per cent. increase, and cotton yarns also, except those dyed with Turkey red, the extra tax on which has been much raised. The change in the classification of cotton thread has further increased the duties in some cases considerably. In woollen yarn a distinction has been made between combed and carded yarns, which make the changes work unequally. Thus, in combed yarns the increase in almost all cases is about 24 per cent., but carded yarns show a few decreases, and, on the other hand, the increases, in many cases, amount to nearly 90 per cent. Similarly the duties on flax and hemp tissues exhibit irregular alterations, the increased duty on linens, unbleached, being from 24 per cent. to 50 per cent. Table linens, &c., are now taxed specifically instead of *ad valorem*, and it is the same with linen, lace, hosiery, &c., and with mixed jute tissues. A further change has been introduced as to linen tissues by counting the weft as well as the warp in classification, and dividing the total by two. The duties on cotton tissues have been doubled as regards the lighter fabrics, and a new classification is introduced. Cotton-velvets and cords show large increases, while specific duties have replaced the *ad valorem* rates of 15 per cent. in printed cottons, &c. The same change is made in pure and mixed woollen tissues, the ten per cent. *ad valorem* duty being converted in all cases. Lastly, in regard to tissues, those of silk and waste silk show the prescribed increase of 24 per cent.

Fancy paper is now taxed treble the former amount. In skins and leather the usual conversions have been made, except in the few articles already subject to specific duties, where the 24 per cent. increase has been effected. In gold and silver wares the 5 per cent. duties have been converted. In iron wares and machinery the rates are almost identical, except two reductions in steel springs and pieces of steel, and increases in sewing needles. Breech-loading fowling-pieces are separated from muzzle-loaders, and pay 50 per cent. more, and rough gun-barrels are charged 200 per cent. more than under the treaty tariff. The duties of 10 per cent. *ad valorem* on furniture have been converted into specific, and the same change has been effected with basket wares, musical instruments, and carriages, and these alterations have necessitated a larger number of subdivisions being introduced to cover the specific rates. Large increases have been made in the duties on straw plaits and on straw hats, the change in the latter being from 10f. to 250f. per 100 kilos. Conversion of the *ad valorem* duties of 10 per cent. have been made in felt hats, corks, fans, combs, brushes, umbrellas, &c.

AN IMPROVED KNIFE CLEANER.

Mr. John Hunt, of Bolton, Lancashire, has obtained letters patent for an improved knife cleaner. This machine consists in a frame or casting with open sides, and with two or more vertical grooves in each end; in each of these grooves are placed two strips of india rubber or other yielding material, which strips extend across the frame, and are held in position by a plate or cap which is secured by screws and winged nuts, and presses the bottom strips against the base plate or bottom of the frame; between these pair of strips a cavity is left, which is filled with emery or other polishing powder, and a hopper or opening is formed in the plate or cap which holds the strip of india rubber in position, through which emery is supplied to the cavity or cavities. Spiral springs are placed under the winged nuts to give an adjustable pressure to the strips of india rubber. The edges of these strips are bevilled to allow the knife to enter readily. The knife is pushed in between the strips of india rubber and through the cavity or cavities containing the emery, and is thoroughly cleaned by pushing it backwards or forwards a few times. Use a clamp or screws to fix the knife cleaner in its place.

SEWING MACHINES.

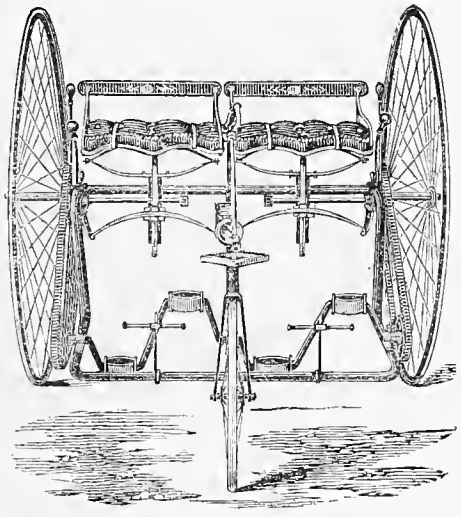
Provisional protection only has been obtained by Mr. Edward Ward, of Wells-street, Oxford-street, London, for "Improvements in sewing machines."

This invention has for its object improvements in sewing machines, and consists:—

Firstly, in so arranging the machine that when not in use the handle and platform, or work plate, may be caused to lie within the area of the base plate, instead of projecting beyond as has generally been the case hitherto, thereby enabling the machine to pack closer and greatly facilitating transport. For this purpose he divides the work-plate or platform into two or more sections, one of such sections being a fixture, as at present, and he hinges the moveable portion or portions to the fixed part, so that the moveable portion or portions may be turned down when desired, and he mounts beneath the fixed portion one or more turn buttons or swivelled brackets, which act in conjunction with an incline or inclines on the moveable portion or portions, and may be turned into position when required to support the moveable portion or portions and thus complete the work-plate or platform, or other means may be employed to support the moveable portions of the work-plate or platform in position. He hinges the handle to the hand wheel and forms the butt of the handle with two flats thereon to act in combination with a spring, so that the handle will either stand at right angles to the hand wheel ready for work, or will lie down thereon for transport, no portion thereof requiring to be detached from the machine. The invention relates, seoondly, to means for facilitating the threading of the machine. For this purpose he mounts on the arm of the machine, at the back of or near to the tension discs, two horns which are twisted into the form of thread carriers with open loops or eyes; and he forms the top of the needle bar and the other thread carrier or carriers with a diagonal saw cut leading to the eye thereof, and he also forms the loop or staple through which the thread passes to and from the spring take-up and the eye of the take-up itself open at one point. He limits the extent of motion of the take-up by means of a guide in which it travels, such guide and the loop or staple being formed in one piece and held in position by a screw. By these means the thread, instead of being threaded through the carriers in the manner of threading a needle, may be readily slipped into place at any portion of its length. The invention relates, thirdly, to means for facilitating the threading of the shuttle, and for regulating the tension of the shuttle thread. For this purpose he hinges the shuttle bar to the shuttle at one end, and extends the other end nearly around the interior of the shuttle, so that the bar and its extension form a frame, which may be turned outward on the hinge when it is desired to remove the bobbin or to thread the shuttle, but which at other times lies within the shuttle, and acts to retain the bobbin in place. The upper extension of the frame has tension holes formed therein, and the upper part of the shuttle is also formed with a tension hole, and such tension holes have slits or saw cuts leading thereto, those in the frame leading in from the opposite side to that in the shuttle, by which means the thread may be readily slipped into position without the trouble of threading in the ordinary manner, and cannot possibly work out therefrom.

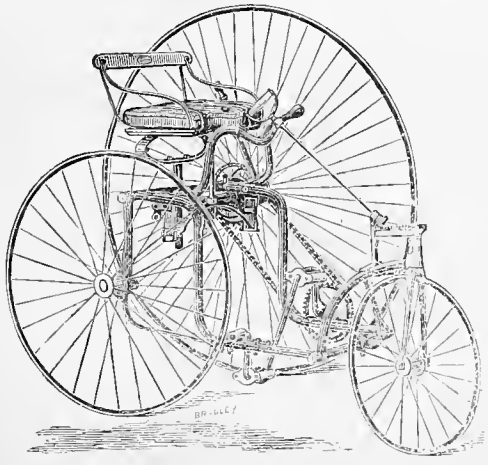
THE CENTAUR BICYCLES AND TRICYCLES.

Since giving a notice of some of the manufactures of the manufactures of the Centaur Bicycle and Tricycle Co., Coventry, we note that in December last, at the Edinburgh Bicycle and Tricycle Exhibition, they were awarded the only silver medals for best roadster bicycles and tricycles, the test being excellence of workmanship, ingenious construction, and ease of propulsion. The chief improvements that they have introduced for this season are the adjustable dust-proof ball pedals, the improved handle bracket and bearing attachment to the double fluted hollow fork, the adjustable step, the adjustable and detachable toe rests, the adjustable and detachable foot rests, the adjnstable hind wheel ball bearing, the improved adjustable dust-proof taper bearing for hind wheel, the improved steering apparatus, the improved grasp front wheel break, and numerous other minor improvements.



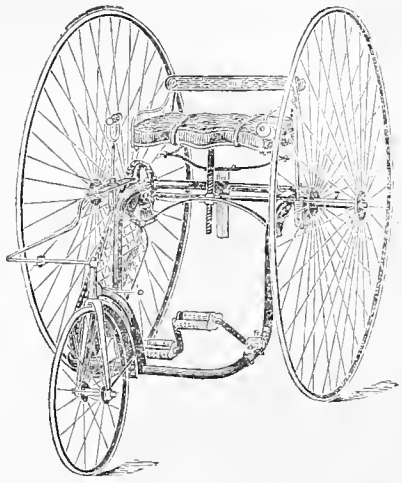
THE CENTAUR "CONVERTIBLE" TRICYCLE

Is constructed so that it will divide in the centre to pass through an ordinary doorway, and in 3½ minutes can be converted into a single machine if required. For this purpose, an extra wheel and connections are supplied. The above illustration (engraved from a photo) represents the machine in its double form; the one below, as it appears when converted into a single machine.



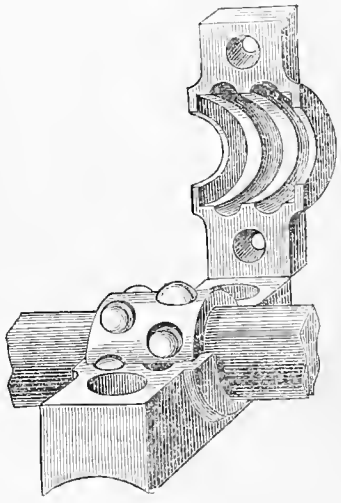
THE "CONVERTIBLE" (FOR ONE RIDER).

In a former number we have given a detailed description of this machine; since then makers have given a more efficient brake power, and simplified the method of disconnection and conversion.



THE SPECIAL "CENTAUR" TRICYCLE

Is constructed with automatic gear to transmit equal power to both driving wheels. In the arrangement of frame, driving-shaft, seat, bearings, and driving motion, it is similar to the "Convertible." The only difference is, that where the latter in its single form has three unequal wheels, the "Special Centaur" has two equal and one small wheel. A special feature in the construction of this machine is the position of the driving shaft. This, instead of being placed forward, is carried directly under the back of the frame. This arrangement stiffens the frame at a point at which the lateral strain is the greatest, allows the bearings to be secured more firmly to the solid connection at the corners—and what is more important, the seat can be evenly balanced (centrally) between the two driving wheels, without any danger of the machine tilting backwards, thus dispensing with the elaborate provisions many makers have to adopt to guard against accidents of this kind, and which in this machine are not required. This machine is suitable for a lady or gentleman. The price to the public is £18 10s.



THE "CENTAUR" ADJUSTABLE DUST-PROOF BALL BEARINGS, AS APPLIED TO BOTH BICYCLES AND TRICYCLES.

Each contains ten steel balls, hardened, and perfectly round. These run in two parallel grooves, recessed partly in the axle and partly in the box of the bearing. By a simple arrangement the balls are kept in separate positions, and at equal distances, whereby the longitudinal friction, as in roller bearings, is avoided.

As a proof that both the friction and resistance are reduced

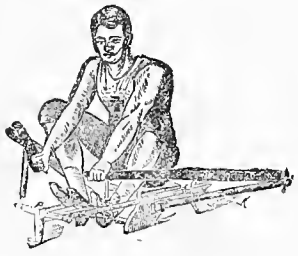
to a minimum by the application of these bearings, a wheel after being used for a short time, will spin from seven to ten minutes, and will then oscillate for two or three minutes afterwards. In appearance they are neat and compact, and as the friction is so small, the wear in twelve months is scarcely perceptible. When the balls begin to work too freely in the grooves, the boxes containing the balls can be adjusted by taking off the bottom cap and slightly reducing the connecting flange. The thickness of a sheet of note paper filed off will compensate for six months' wear.

The Company's Double-fluted Hollow-fork (D.F.H.F.) Bicycle, to which the silver medal was awarded at Edinburgh, is a grand machine. It is fitted with adjustable ball bearings to driving wheel, improved taper, dustproof and adjustable bearings to hind wheel; black or grey horn handles; gunmetal hubbs, with 4¼ flanges; best patent moulded (red) tyres; patent weldless steel tube backbone and forks; the special crescent section steel felloes; and "Centaur" patent detachable cranks, the weight (50-inch roadster) being but 40lbs. The special feature of the machine being the forks, which are not brazed to a solid head, but extend from the handle to the bearings, thus forming not only the most rigid, but the most symmetrical hollow-fork at present in use. These machines are made either as roadsters or racers, and can be supplied to the public from £11.

The Centaur Co. also make "The Centaur Compressible," a tricycle that may be compressed in a few seconds from 40in. to 30in., to allow it to pass through an ordinary doorway. School tricycles from £6 10s., child's bicycles from £3 12s. 6d. The Centaur Co., Coventry, are also sole manufacturers of Harrison's Patent Rowing Apparatus and Family Gymnasium, which may afford harmonious and simultaneous exercise to the whole body. It is rowing in the room with the advantages of rowing on the water, the tension bands affording a capital illustration of the "resistance of water." The sliding seat and every detail of rowing are observed, and all the benefits of the exercise realised. A slight change converts the machine into a health lift, and to fifteen other different exercises, thus forming a complete gymnasium. Price of apparatus, in case complete, £2 2s.

THE "EUREKA" PARLOUR ROWING MACHINE.

This novelty attracted much attention at a recent exhibition at the Agricultural Hall, London; a young gentleman attired as a waterman was giving practical illustrations of "how to row on land," the machine of which we give an illustration.

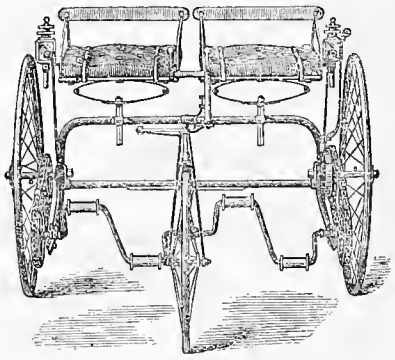


THE "EUREKA" ROWING MACHINE

Is very remarkable—a whole gymnasium in itself, for in dumb-bell exercise, club swinging, weight lifting, running or walking, all of which have their beneficial effects, there yet remains the fact that they are only useful in developing one set of muscles, or but a portion of the system. In rowing, however, the legs, loins, trunk, arms, hands, the digestive organs and the lungs, are made to perform their regular and legitimate functions simultaneously, and the danger of building up one part of the system at the expense of another thereby avoided, and to the recognition of these facts is ascribed the popularity of aquatic sports here and abroad. But it is not always convenient for large numbers of our people to indulge in this healthful pastime; the expense of owning and keeping a boat, the difficulty of reaching an acceptable place for rowing, no less than the dangers incident to inexperienced oarsmen upon the water, are drawbacks which can be only met by the substitution of a machine giving all the advantages without the disagreeable accessories; to this end several machines have been introduced, but the "Eureka" Parlour Rowing Machine gives an exact and perfect imitation of rowing, and can also be used in many ways, as a health-lift, a chest expander, weight-lift, or single or double scull exercise machine. It retails complete at £3, and may be had wholesale of Messrs. E. I. Horsman and Co., 4, Hamsell-street, London, E.C.

THE "METEOR" SOCIABLE TRICYCLE.

From Messrs. Starky and Sutton, Coventry, we have received a pamphlet of some eight or ten pages, containing some hundreds of interesting testimonials in favour of their "Meteor" bicycles. These machines, which are constructed to meet the demand for a light yet strong carriage that can be easily driven and steered, and suitable either for lady or gentleman. It weighs only 65lbs., a boy of eight years can drive it with ease, while it will as easily carry a man weighing 25 stone. The machine can be turned in a radius of five feet. The great sensitiveness experienced in most tricycles, in the displacement of obstacles, or in descending hills, is entirely removed by the application of a new hind wheel brake, which, by a thin connecting rod, is applied in a similar way to the grip brake of the bicycle, leaving the handle (usually so very sensitive) perfectly rigid, giving the rider immense propelling power and a



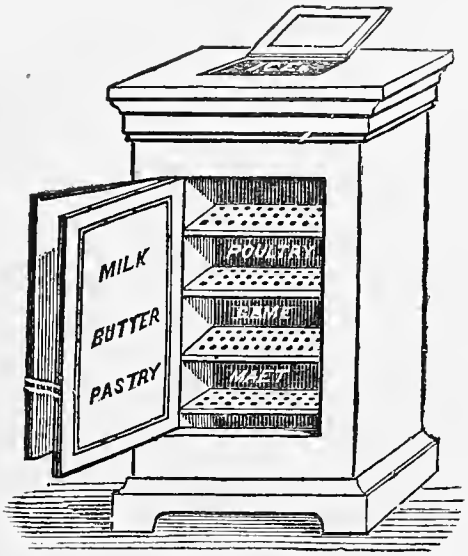
feeling of safety very indispensable to timid riders. It is fitted with Messrs. Starkey and Sutton's patent universal bearing, a comfortably cushioned adjustable seat, lamp holder, best rubber tyres, lock-nutted wheels, and is propelled by the rotary or bicycle action, with multiplied gear, by means of which, although only 40 in. front wheels are used in the ordinary size, the same speed is obtained as from 50 in. ditto. Made any width, from 2 feet 6 inches to 3 feet 6 inches (ordinary width from stock 3 feet 3 inches), or by unscrewing a nut one of the side wheels can instantly be removed, reducing the with from 3 feet 2 inches to 2 feet 6 inches. The retail price is £16.

The "Meteor" Sociable," of which we give an illustration, is built on the same lines, and, like the "Meteor" tricycle, open in front, is as readily mounted and dismounted, and is fitted with new registered adjustable seats. The retail price is £21. It is well named, the "Sociable," and any two friends may have a happy time, jogging along on a fine day on a road not dusty. The "Meteor" Sociable is bound to become a great favourite.

STAMPED HALFPENNY NEWSPAPER WRAPPERS.—Stamped halfpenny newspaper wrappers of a better quality than those hitherto in use, which will be discontinued when the present stocks are sold off, will be issued for sale to the public on June 1. They may be purchased singly or in any number, according to the undermentioned scale of prices, viz.:—One for ¾d., two for 1¼d., three for 1¾d., four for 2½d., five for 3d., six for 3½d., and so on. The public can also obtain these wrappers uncut in quarter reams, containing 120 sheets of 14 wrappers on each sheet, by making special application for them at the post-office at which they wish to obtain them. The price for the quarter-ream is £3 18s.

REFRIGERATORS.

In large establishments, for butchers, poulterers, pork-butchers, hotels, cafés, cheesemongers, public-houses, co-operative stores, provision dealers, &c., a good refrigerator is an absolute necessity, especially during the warm months of summer. Among the exhibits at the late domestic applianee exhibition we noticed the

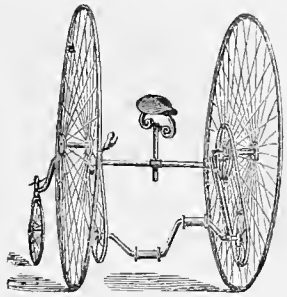


VENTILATED DRY AIR SHAFT REFRIGERATOR

Manufactured by Madame Jolley, 2, Rue T'Kint, Brussels, and 26A, Hosier-lane, London, E.C. We give an illustration of one of these "Meat Safes." They are made in American pitch pine and varnished ready for use. As the price does not exceed that of common ice-boxes, dealers will find a ready sale for them. The retail price of No. 1 size, 2ft. 4in. by 1ft. 10in. by 4ft. high, being but £7. They can be used with ice, water, or any kind of freezing mixtures. The refrigerators may be had in any size from the No. 1 named above to one 9ft. 6in. high by 6ft. wide and 3ft. 4in. deep at £30.

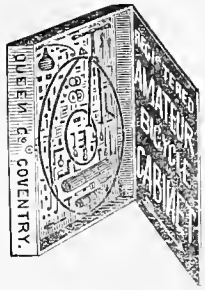
THE "QUEEN" BICYCLES AND TRICYCLES.

The Queen Bicyele and Tricycle Company, of Coventry, have introduced well-made, but low-priced machines to the Coventry market with considerable success. A speciality of this company is their Bicycle and Tricyele Cabinets, that for the bicycle contains over one hundred and thirty separate pieces. The back-



"DUCHESS" PATENT.

bone, neck and back fork are already drawn, bent, tapered, and welded together. The head is turned and fitted up with centre screw, lock, nut, &c. The forks are welded to it, and the bearing also, the hubs are turned and drilled, and bored for the spokes, bearings, &c. The bearings are finished, turned, bored and screwed together, The rims are rolled into shape, brazed, and drilled for the spokes. The entire cost of the lot, including cabinet, is £4 4s. A good discount even on these low prices are allowed to agents, who may either sell them as



they are to the amateur mechanie, or make them up into bicycles himself, and thus really be the "maker."

The "Duchesse" Tricycle Cabinet is priced at £5 5s., and may be readily put together, forming a machine of which we give an engraving.

NEW TAKEABOUT BICYCLE AND HAND BAG.

Mr. W. J. Spurrier, of 119, Newhall-street, Birmingham, patentee and manufacturer, finding the Takeabout introduced by him last season so very successful, has introduced a novelty in bags which fits on to the backbone of the bicycle on an

entirely original plan, but well below the saddle, so as not to interfere with the mounting. As our readers are perhaps aware, the great merits of these Takeabouts are that the size can be adjusted to the parcel to be carried, that they are perfectly waterproof, light and cool. The retail price is from 3s. 6d.

BOYS' AND GIRLS' TRICYCLES.

The illustration herewith represents one of the Juvenile Tricycles manufactured by Messrs. Warman, Laxon and Aslatt,

of Coventry, and as the price is very low, considering the guarantee given by the makers—"that it is built of the best

materials, and warranted to stand any amount of rough usage"—are most important items when boys are the riders, we are of opinion that the trade could not have better machines to handle, the testimonials that this firm have received respecting them being most satisfactory. In this tricycle the seat is arranged to rise and fall to accommodate the length of the leg, and the seat springs are easy and affective. The retail prices are from 55s. for 22-inch wheels, and 65s. for 26-inch wheels.

THE WORLD ON WHEELS.

We have arrived by slow stages at the exact moment in the year when the world is on wheels. One day it may be too cold, too cheerless, or too threatening to stir away from home and shelter; the next it may be too sultry and fatiguing to face the glare and the dust. The time for loitering in the backwaters of the Thames, for attaching the lazy hammock to the ancestral trees, for watching cricket matches under some comfortable shade of greenery, for taking a turn at lawn tennis, and enjoying an interval of conversation, for idling on warm Sunday afternoons in secluded gardens, the days of claret cup and ice and borage, for pic-nics and pleasurings innumerable, will come surely enough, if all be well. But just at this instant moment of the year it seems natural, nay imperative, to take our pleasures upon wheels. The great Derby festival of next week requires a rehearsal. The country is in flower, the fields a mingled glory of green and gold, the may scenting the country lanes, the chestnuts in blossom, the distant landscape with no haze of heat, standing out sharp and defined in the bright sunlight, the dust driven away by the recent rains, the breeze just persuasive enough to be pleasant but too kindly to be cold; and so it happened that the great meet of bycyclists at Hampton Court gave expression to a universal feeling and an excuse for a drive into the country. At this time of the year it seems imperative that everyone who has a horse should use it, and, having it not, should stretch a point and hire one. To miss such a spring is positively churlish. So the coaching clubs and the members of the four-in-hand look out their best teams; they must practice for the Hyde Park meet, just as the humble owner of the trap must get ready for Epsom, and such a Saturday and Sunday as we have just enjoyed is devoted irresistibly to getting away from London and making the most of the sudden spell of fine weather. The great city is happily situated for such exhilarating excursions. On all sides there are temptations for straying far afield. Riverside clubs and distant hotels enclosed in gardens, suburban houses and dinners near the fresh air, are sought out at this time, and, in finding them by road, we can peep at the pleasures of secluded life surrounded by trees and flowering orchards, miniature arbours, and quiet lawns. For the rest, so long as the law is permitted to remain what it is and the doors of the country inns are not sulkily closed in our faces, there are little tea gardens and bowling-greens, roadside pulic-houses, and picturesque rendezvous that appear to be abominable in the eyes of the total abstainer, but cannot make men much the worse for their convenience, seeing that they take him and his wife and his children away from the dust and dirt of the crowded city to the myriad humanising influences of nature as seen now in her purity and at her best.

The bycicle is after all the horse of the poor man, and by this invention the country has been brought nearer and nearer to the dwellers in town. There was a special fitness on such a day to open the season, and the sun certainly smiled on the active young fellows, who are accustomed to put a girdle round the districts most favoured by freshness and scenic charm. Naturally, this great army of athleticism turned its face in the direction of Surrey. Away they went by this road and that in detachments and squadrons, isolated and in pairs, as soon as work was over on Saturday, to the meeting point in the neighbourhood of Bushey Park. The streets seemed to be alive with bycicles, and everywhere was heard a jingling and jangling of bells. Away went the swift and silent army from counting-house and shop, desk and depôt, one column by the King's-road, Chelsea, the other swiftly heading towards Fulham and Putney direct by Brompton. The clouds had all cleared away, and the breeze freshened as the afternoon advanced. The bycicles outraced everything. Whenever there is anything to see—and that is seldom enough—there are plenty of people to witness it. Faces smiled over the suburban garden walls, the streets were lined with spectators, everyone seemed to be out and about when it was rumoured that this great force of two thousand bicycles was to career round the statue of Diana that stands in the circular lake at the head of the chesnut avenue in Bushey Park, within a stone's throw of the old red palace at Hampton Court. Special omnibuses ran down from London to the Park at cheap fares; huge *chars-a-bancs*—such as the wild excursionists use in modern Paris—were put on the road; carriages, flys, and traps of every possible description met the holiday-makers at the railway stations and drove off in the direction of Putney Hill, and the driving clubs did not fail to be represented by some splendid teams. When, for instance, was any form of sport neglected by Lord Londesborough—from a cricket match to a boat-race, a polo game to a bycicle gathering—and, as may be supposed, his lordship's drag, driven by himself, was one of the very first to pass into Bushey Park by the Greyhound Gates, and to take up a station in the long string of carriages in the pretty chesnut avenue. The bicyclists, however, gave every one the slip. Away they went, clearing Putney town, with its old houses festooned with clustering flowers and rising out of hedges of double may, away over Wimbledon Common, where the golden gorse was in bloom, into the hollow where the nightingales sing when the evening comes, heading along the white hard road to the hill top with its distant Surrey view, on by roadside inns and baiting places to Kingston Vale, and so through Norbiton to Kingston town. But there was no time to lose. The river on such a day was comparatively deserted, every one was on the road, and at Hampton Wick the stream of vehicles divided, half to the Palace end and half to the Teddington corner of Bushey Park. The world has surely never seen such a congregation of bicycles. All were in their Sunday best and wore the smartest of uniforms. On working days there may be dusty jackets and travel-stained boots, collarless necks and more workmanlike clothes, but not to-day. It is a wheel past to show that athletes can be neat and fastidious if they choose; and in truth the fastidiousness expressed in white kid gloves and bouquets of gardenia and stephanotis might have astonished the athletes of another age had not the day's experiment been prolific in many an example of orderly discipline and distinct courage. Every combination of colour that fashion, taste, and ingenuity could invent was expressed in the badge worn on the arm of each captain of the 141 home and provincial clubs that obeyed the summons of the marshals of this extraordinary scene. There were stripes diagonal and horizontal, every shape and cut of shooting or patrol jacket, every kind of cap, from the semi-military helmet to the yachting cloth-picked cap; there were caps with gold braid and silver braid, devices of every sort of metal on breast or forehead, gloves of dogskin, buckskin, or kid, with gauntlets and without; there were bicycles with brakes and pedometers, with every dodge and appliance that existing science can suggest; but all with the regulation lamp swinging to and fro, and with the everlasting jingle of the bells.

It had been arranged to mass upon Hampton Green, and, on the start being given, to proceed on to and through Hampton to Lee Hampton, turn to the right to Teddington, thence straight up the chesnut avenue to Bushey Park, taking the left of the Diana Fountain, through the Park gates, and then straight by the Royal paddocks, to dismiss at Hampton Wick. This programme was adhered to pretty accurately, and certainly the best and most picturesque place to see the procession was in the immediate vicinity of the round lake, that reminds the spectator so much of Versailles, with the advantage of seeing all on the side of our English park. It would have been impossible to select a more enchanting evening. The low light gave colour to the scene, the water was as clear as a mirror, on which the white-flowered trees were reflected; all was fresh and bright and green and pleasant, and the police, aided by the stewards, had no difficulty in subduing the traffic or organising the patient and uncomplaining crowd. A procession that moves, comparatively speaking, at a snail's pace,

consisting of one hundred and forty-one clubs, upwards of sixteen hundred club bicyclists, four hundred unattached machinists, be they bicycle or tricycle, and that takes an hour in passing, is not altogether exhilarating, though it may be strange. It passed in silence like a ghostly army, the gentle pressure of the indiarubber tires being scarcely audible, and the tinkling bells very faint. What struck the spectator most was the singularly anxious and eager expression that each face bore as the bicyclist wheeled silently along. It was a curious study for a physiognomist, and really a remarkable fact how utterly the sense of pleasure or enjoyment seemed to have been momentarily postponed. We have heard of that narrow limit between safety and danger which consists of "hanging on by the eyelids," and here the endeavour to do so was photographed on each individual face. A desire to keep a strict mechanical order, to obey the rules of dressing and discipline, to show well in public, and maintain a certain military precision in obedience to the captain's command, may no doubt have been the cause of considerable anxiety and enforced emulation, but certainly no regiment of infantry or cavalry that marched past a saluting post with the eyes of Queen, generals, or the nation itself upon them, no swimmer that ever attempted to reach a distant shore bore such a strained and concentrated expression as was depicted on all these two theusand sad faces, excepting of course the defiantly laughing tricyclists who were secure from danger and laughed trepidation to scorn.

Doubtless there was considerable cause for anxiety. To make a slip on such an occasion not only meant immediate grief to the unlucky bicyclist but impending sorrow to scores of others. To get a tumble is inconvenient, though not necessarily dangerous, but to know if you tumble you will probably have a hundred bicycles piled upon your prostrate body is not a pleasant reflection. The one might mean contusion, but the other something far more serious. The afternoon did not pass over without several of these untoward accidents. From some cause or other, a stone, a rut, a ridge, or a false turn, a bicycle came down with its rider, and in less than a second the oncoming detachment fell like a pack of cards. One tumble brought on half-a-dozen more, but, thanks to the care of the stewards in separating the squads and in quickly picking up the fallen, no bad accidents occurred so far as we could see. Now and then the victim would looked stunned and dazed, but the sense of emulation conquered, he mounted again, and sped away to join his lost companions. Another cause for this intense anxiety of expression, particularly noticeable under the chesnut trees, was the unwelcome attention of myriads of midges, who seemed to take a delight in stinging and annoying the bicyclist, whose hands were hopelessly occupied and could not be detached. A man who is so intent on his work as these were may necessarily look grave; but if, in addition to his desire to avoid a fall, he is stung in the face and neck by insects which he cannot assault, the expression becomes positively comical. But these were the only drawbacks to a delightful afternoon. Bicycling never became so important a fact as when two thousand votaries from all parts of the country swept by the astonished spectators who had assembled under the old trees of Bushey Park. Isolated it is a pleasant social amusement; congregated it presents an enormous army that has shown itself amenable to order, authority, and excellent organization.—*Daily Telegraph.*

AMERICAN BICYCLES.

In a recent number of *The Bazaar* Mr. H. Hewitt Griffin contributes the following, a continuation of his series of interesting notes upon Bicycles of the Year.

"The Standard Columbia (The Pope Manufacturing Company, Offices and Show Rooms, 597, Washington-street, Boston, Massachusetts; Factory, Hartford, Connecticut, United States America; London Agents, S. Withers and Co., 73, Cheapside, E.C.).—A short time since we spoke of a threatened invasion of this country by the American bicycle manufactures. The event has come to pass, and English makers are bearded in their own den by American built machines being offered for sale in London. A word as to the past history of the bicycle in the States. With true Yankee 'cuteness, the principle of the first machines was patented by P. W. Mackenzie in 1862, and the most probable origin was in the 'Cantering Propeller,' a child's rocking horse, in which the swaying of the wooden steeds acted on cranks, attached to wheels, and so propelled the machine. At the first signs of the modern bicycle (boneshakers of a very crude form) being introduced, Mr. Mackenzie (in 1864) confirmed his patent, and claimed the sole right to use the crank action; a few years later, in 1868-9, he was opposed by Messrs. Willy and Smith; other claimants also entered the field, and there was, for some time, an all-round (legal) fight. The Messrs. Pope, a little later, hit upon the happy expedient of buying up the various claims, and thus consolidating the opposing forces, whose joint ideas were merged into the Pope Manufacturing Company, which, therefore, possesses a monopoly of the vast American market. Several have disputed the right to so rich a field of trade, but in every case the Pope Manufacturing Company have won the day, and, not only have they the sole right to make, but they also can stop anyone from selling or importing machines. Amongst others, an injunction was obtained against Dave Stanton, our ex-champion, who, when 'starring' in America, tried to introduce several English machines.

For the benefit of readers interested in patents, we give a list of those held by the Company:—

	No.	Date.	Name.
1	41.310	19th Jan., 1864	T. Mackenzie
2	43.651	26th July, 1864	G. A. & A. B. Woodward
3	46.705	7th March, 1865	H. A. Reynolds
4	54,207	24th April, 1866	H. A. Reynolds
5	59,915	20th Nov., 1866	Pierre Lallement
6	69.403	1st Oct., 1867	J. G. Buzzell
7	80.425	28th July, 1868	H. A. Reynolds
8	86,834	9th Feb., 1869	Hanlon Brothers
*9	3.297	18th Jan., 1870	Hanlon Brothers
*10	3.319	2nd March, 1869	S. W. Smith
11	87.900	16th March, 1869	Calvin Witty
12	98.920	18th Jan., 1870	J. G. Buzzell
*13	7.818	31st July, 1877	Montpelier Manufacturing Co.
*14	7.972	27th Nov., 1877	Richardsan and M'Kee
*15	8.252	28th May, 1878	H. A. Reynolds

Those marked * are re-issues. The above list embraces all patents relating to the application of the foot crank to the front wheel of a velocipede. We alluded to several of these in one of our earlier articles (in *The Bazaar* of 21st April, 1875), when we were reviewing the history of the bicycle.

On hearing that a machine had arrived, we lost no time in inspecting it at Messrs. Withers'. If the Americans were before us in the early days, they must have subsided into a Rip Van Winkle sleep for the past few years, for the Special Columbia seems an exact reproduction of the Excelsior (Bayliss and Thomas) of three to four years ago, and is evidently built on the lines of one that reached the States about that time.

Taking the wheels, first, we find V iron rims, rather coarse rubber, and fifty-two spokes, locknutted into large iron hubs, 6-in. wide by 4½ deep, which are but very slightly recessed. For bearings, single row ball bearings, unadjustable, are used; they are knuckle-jointed to the solid forks; the wheel seems to run very freely. The cranks are a good shape, and detachable; the pedals (ordinary rubber) have a slight novelty, as, in place of the usual nut at the end, a small brass cap unscrews, when another screw inside has to be undone before the pedal can be removed from the pin. Considering that most of our makers at home are only just finding out, after our repeatedly drawing attention to it, the great importance of the width of "tread," it is not surprising that our American cousins are, as yet, ignorant of it. In the 'S.C.' we found it to be no less than 15½-in. to 16-in. from centre to centre of pedals, fully 3-in. more than there is any need for; the axle alone is 11-in. The forks are taken right up to the handle, and the lower bridge, which forms the support for the bottom centre of the open head, is, together with the upper cross piece and boss, which carry the handles slightly in front, made in one solid forging, and therefore immensely strong. This allows of long (over 5-in.) centres and increased steadiness. The handle bar is 6-in. high by 22-in. long, and a good front break is fitted, the hand lever

of which might be a little longer. The nut over the centres is kept well down; it holds a neat nickel plate, on which is engraved a list of the Company's patents. The backbone, or "perch," as it is termed by the makers, is tubular, and joins the well spreading rear (solid) forks. Cones are put to the back wheel, but they are adjusted in a handy manner by means of a milled edge, which can be turned by the fingers. An ordinary spring is bolted to the neck in front of the centres, thus throwing the rider's weight near the middle of the spring; the tail slides into a simple clip. A good-sized step completes the machine.

The Pope Manufacturing Company have made a plucky move by catering for English custom, but, save in the case of an eccentric rider, who for the sake of novelty would get an S.C., we are sure they need not look to this country for an extension of business; if they had produced the present machine in 1877 it would have merited praise, but it is quite out of date in 1881. We should strongly advise the Pope Manufacturing Company to import a Humber, Matchless, Rudge, Rucker, Invincible, and one or two more of our standard makes, and after duly studying their details of construction, they may be able to realise what a bicycle ought to be. There is no reason why American riders should be a generation, in cyclistic time, behind their English fellow wheel-men. In fairness we must state that the Standard Columbia is a fine strong machine and well made in all parts; a 52-in. weighs 48-lbs., and costs 102 dols. 50c., or, in English, £20 10s.; without ball bearings, 92 dols. 50c., or £18 10s. It is worth calling at Messrs. Withers' to inspect it, as being the first modern American bicycle exhibited for sale in England."

SANITANY HINTS TO OPERATORS ON SEWING MACHINES.

The majority of sewing machine operators are not rich in money; their health and skill are their capital. While their employment is confining and fatiguing, and therefore to a certain extent unhealthy, it is often made still more unwholesome by careless habits. Many who are very scrupulous in keeping the written commandments, thoughtlessly neglect and break the laws of their own bodies, thus sowing the seeds of diseases that they are too apt to ascribe to the continued sewing of seams. A few suggestions by way of caution will greatly aid needle workers in sustaining the fatigue of their occupation without sustaining therefrom any loss of health.

When sitting at the sewing machine the body should be held as nearly as possible in an erect position, so as to give the chest organs full play. Most operators stoop forward more than is necessary, in view of the fact that the work can be done just as well and with less fatigue in an erect than in a stooping posture. The parts of the body are better balanced upon the spine, and the muscles are more evenly brought into play. Besides, the upright position is much more graceful, a fact that we should think no lady operator would care to lose sight of.

The eyes are the most delicate of all the organs, and should therefore be the most carefully guarded. Weak eyes may be strained by too long attention to fine work. They should never be used in a dim light, especially at twilight. After sunset the darkness steals on us so gradually that, before we are aware, the eyes have been strained in accommodating themselves to the lessening light. Bright objects are especially trying to the sight. Cross lights should be guarded against. The light should fall upon the work from above the level of the eyes, or from some point where it will not shine directly into the eyes. Beware of using the eyes if they are inflamed or unusually weak.

Food is the fuel of the body and should be carefully selected as regards both quantity and quality. Nourishment and ease of digestion should be prime considerations in selecting. Fat and greases should be avoided. Pickles, spices, and condiments generally, if used in any but very small quantities, and but seldom at that, are injurious. Meats are stimulating; they should be roast or broiled, and taken in small quantities, except by those who take frequent and active exercise in the open air, which is not the lot of sewing machine operators. Farinaceous foods and fruits are wholesome. Mere stimulants, especially spirits, should be, as a general thing, avoided, except in cases of unusual depression or sickness, when they maysometimes be beneficial. Regularity of meals is almost as important as the quality of their ingredients. Food should be well masticated and time allowed for proper digestion.

Fresh air, sunlight and moderate exercise, together with proper food, are the great preservatives of health. No mere medicines can approach them as restoratives. The oxygen in the air renovates the blood, and it should be as pure and copious as nature furnishes and the lungs can use. Close or crowded rooms are sure to breed disease, sooner or later. Air once exhaled is not fit for use again until it is purified. The exhalations from lungs are as foul as any of the bodily excretions; and did people fully realise it our stomachs would revolt at reinhaling them. Their nauseousness has been fully revealed by the use of the microscope, which has done so much to advance anatomical and pathological science.

Exercise of the body is a necessary condition of its health. Hand needle-workers have especial need of exercise. The machine worker uses more muscles, and more vigorously; but the strained muscles should be relaxed, and those unused to be brought into play by suitable exercise. Dancing is not the proper exercise for one who has used the lower limbs all day upon the machine. There is nothing unhealthful in the motion required to operate the machine, but overwork, from constant daily use, will often bring about the most serious results.

Cleanliness is next to godliness. To say nothing of the delicacy or decency of the thing, bathing or frequent washing conduce greatly to health. Exhalation through the pores of the skin amount to several ounces daily, and should be removed by thorough cleansing with soap and water. Besides, a bath is very refreshing and invigorating. Clean clothes and surroundings are equally important.

Sleep is as necessary as food or exercise, and proper attention to these helps to sound and refreshing sleep. It is impossible to fix arbitrarily the number of hours for sleep. Some persons require more, some less. The object of sleep is to recuperate the exhausted force of brain and muscle. To prepare the system for refreshing sleep, the mind and stomach should be free from labor. No meal should be eaten for three or four hours before retiring, nor the mind taxed to violent action, especially of a depressing kind.

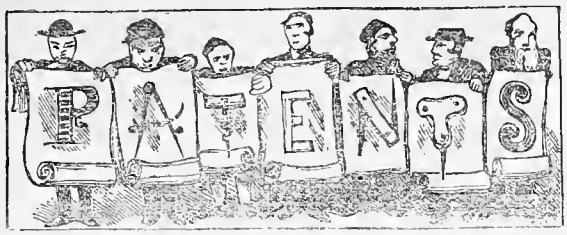
The bedroom should not be very small, and should be airy, with good ventilation. The hours for retiring and rising should be early and regular. It is not well to accustom one's self to read in bed; and the use of drugs to induce sleep should be totally avoided. If there should be sleeplessness the remedy should be sought in proper food and exercise.

Cheerfulness is a positively virtuous disposition; it requires great care in its cultivation and maintenance, and produces wholesome effect upon its possessor and others. No one has a moral right to be sour and cross, or to look gloomy or moody. A cheerful countenance sheds a glow all around. It is like sunlight. It must, to be genuine, have a basis of right thinking, feeling and living; it is utterly incompatiable with envy, anger, hatred, jealousy, or the like. Worry wears more than work.

Recreation, it should be borne in mind, is an important duty, inasmuch as it greatly tends to mental and physical refreshment, and should be carefully provided for. But let it be borne in mind, always, that dissipation is not recreation.

With these few hints we commend the subject of sanitary precaution to the earnest consideration of those whose vocation it is to constantly operate sewing machines.—*Sewing Machine News.*

The Wool Exhibition at the Crystal Palace promises to be numerously attended, and offers every indication of success. There will be over 200 exhibitors, many of them coming from various parts of Australia, the Continent, and South America. Every kind of fabric into the composition of which wool enters will be represented. The exhibition will commence in June, and remain open until October.



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. REDFERN, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 1,502. G. C. Taylor, of Huddersfield, for improved means of preparing warps for weaving and in the methods or processes of and apparatus employed in such preparation. Dated April 6, 1881.

„ 1,548. J. W. Ramsden, of Leeds, for improvements in sewing machines. Dated April 8, 1881.

„ 1,563. J. C. Garrood, of Fakenham, Norfolk, for improvements in velocipedes partly applicable to other machinery. Dated April 11, 1881.

„ 1,578. J. Leadbeater and A. Leadbeater, both of Morley, near Leeds, for improvements in the method of and apparatus for feeding wool and other fibres to scribbling and carding machinery. Dated April 11, 1881.

„ 1,583. J. H. Johnson—a communication from C. H. Willcox, of New York, and J. E. A. Gibbs, of Steele's Tavern, Rockingham, Virginia, both in United States, for improvements in sewing machines. Dated April 12, 1881.

„ 1,594. R. O. Rowland, of Manchester, for improvements in bicycles and tricycles, applicable also to other similar vehicles. Dated April 12, 1881.

„ 1,615. J. G. Wilson—a communication from A. M. Leslie, of Chicago, Illinois, and the Teller Manufacturing Company, of Cleveland, Ohio, both in United States, for improvements in sewing machines. Dated April 13, 1881.

„ 1,617. F. Heyrich and F. Quenstedt, both of Berlin, Germany, for improvements in or connected with sewing machines. Dated April 13, 1881.

, 1,655. A. M. Clark—a communication from A. G. Jennings, of Brooklyn, New York, United States, for improvements in cotton gins. Dated April 14, 1881.

„ 1,657. W. Thacker, of Nottingham, for improvements in the manufacture of fabrics in knitting and other machinery employed in the manufacture of knitted or looped fabrics, and in machinery or apparatus employed therein. Dated April 14, 1881.

„ 1,661. W. Hillman, of Coventry, for improvements in velocipedes. Dated April 14, 1881.

„ 1,663. L. Silverman, of Westminster, London, and J. R. Cumming, of Ilford, Essex, for improvements in sewing machines. Dated April 14, 1881.

„ 1,664. W. H. Bliss, of Addington-terrace, Forest Hill, London, for improvements in tricycles, bicycles, and other velocipedes. Dated April 14, 1881.

„ 1,689. J. Erskine, of Strabane, Tyrone, Ireland, for an improvement in spinning and twisting frames. Dated April 19, 1881.

„ 1,691. A. Wharton, of Snettisham, Norfolk, for an improved tricycle. Dated April 19, 1881.

1,772. J. H. and L. Wilson, both of Cornholme, Todmorden, Lancashire, Bobbin Manufacturers, for improvements in and applicable to the bobbins and tubes used in spinning and doubling machinery. Dated April 25, 1881.

„ 1,774. T. Townsend, of Coventry, for improvements in the driving gear of tricycles. Dated April 25, 1881.

„ 1,813. H. S. H. Shaw, of Bristol, Lecturer at University College, for a combined brake and speed indicator for bicycles or velocipedes. Dated April 27, 1881.

„ 1,814. W. Morgan-Brown—a communication from J. Reece, of Boston, Massachusetts, United States, for improvements in button-hole sewing machines. Dated April 27, 1881.

No. 1,824. T. Banister and S. Lees, both of Rochdale, Lancashire, for improvements in the construction of tricycles, part of which invention is also applicable for transmitting motion on other machines. Dated April 27, 1881.

„ 1,860. J. Harrington, of Norman's-buildings, St. Luke's, London, for improvements in tricycles and other velocipedes. Dated April 29, 1881.

„ 1,864. J. E. Hatch, of Camberwell, London, for improvements in velocipedes. Dated April 29, 1881.

„ 1,871. A. G. Meeze, of Redhill, Surrey, and N. Salamon, of Holborn Viaduct, London, Sewing Machine Factor, for improvements in the construction and fittings of velocipedes. Dated April 30, 1881.

„ 1,875. G. Bernhardt, of Radcliffe, Lancashire, Spinner and manufacturer, for improvements in machinery or arrangements for winding and reeling yarns or threads, partly applicable to bobbins or pirns and shuttles used therewith. Dated May 2, 1881.

„ 1,816. A. Cooper, of Clerkenwell, London, Commercial Traveller, for improved apparatus to be used in the washing of clothes, fabrics, materials, and other articles, applicable also as a circulator or mixer in brewing, chemical, and other processes. Dated May 2, 1881.

„ 1,949. E. A. Brydges—a communication from E. G. Wege, of Apolda, Germany, for improvements in knitting machines or stocking frames. Dated May 4, 1881.

Letters Patent have been issued for the following:—

No. 2,226. R. Green, of Birmingham, Machinist and Bicycle Manufacturer, for improvements for bearings in bicycles, tricycles, and other velocipedes, and for wheel carriages. Dated June 1, 1880.

„ 4,144. A. J. Boult—a communication from S. S. Fuller, of Stratford, Ontario, Canada, for improvements in scutching machines. Dated October 12, 1880.

„ 4,171. W. A. Barlow—a communication from C. Pfeiffer and H. Offroy, both of Paris, for improvements in drawing frames for cotton and other analogous textile materials. Dated October 13, 1880.

„ 4,257. E. C. F. Otto, of Peckham, London, for improvements in velocipedes. Dated October 19, 1880.

„ 4,313. J. Warwick, of Manchester, Sewing Machine Manufacturer, for improvements in sewing machines. Dated October 22, 1880.

„ 4,318. J. F. R. Wood, of Newcastle-street, Farringdon-street, London, for improvements in or applicable to bicycles. Dated October 22, 1880.

„ 4,336. W. R. Lake—a communication from C. H. Chapman, of Shirley, Massachusetts, United States, for improvements in and relating to spinning machine spindles and parts connected therewith, and in means for manufacturing such spindles. Dated October 23, 1880.

„ 4,432. W. Hillman, of Coventry, for improvements in velocipedes. Dated October 29, 1880.

„ 4,498. R. Steel, Manufacturer, C. H. Binns, Collector, A. Steinmetz, junior, Stone Cutter, C. A. Spring, Manufacturer, and W. A. Nichols, Attorney-at-Law, all of Philadelphia, Pennsylvania, United States, for sewing machine and other treadles. Dated November 3, 1880.

„ 4,525. A. Heaven, of Manchester, for improvements in embroidering by machinery, and in ornamenting fabrics. Dated November 4, 1880.

„ 4,543. W. Martin and J. Hind, both of Nottingham, for improvements in jacquard needles or cross wires. Dated November 5, 1880.

„ 4,653. T. Pritchard, jun., of Coventry, for improvements in and relating to velocipedes.

„ 4,658. E. Hughes, of Woolwich, Solicitor, for improvements in tricycles or velocipedes with three wheels. Dated November 12, 1880.

„ 4,763. C. G. Hawkins, of Leighton-road, Forest Gate, London, for improvements in the construction of tricycles and other velocipedes, and in attachments and driving gear for the same. Dated November 18, 1880.

„ 4,948. W. H. Thompson, of Finsbury-square, and F. G. Henwood, of Budge-row, both in London, for improvements in the arrangement and construction

of velocipedes and similar vehicles or machines. Dated November 27, 1880.

No. 5,285. J. Steele, of Birmingham, Manufacturer, for improvements in tricycles, parts of which improvements may also be applied to other velocipedes. Dated December 16, 1880.

„ 5,511. J. Starley, of Coventry, Mechanician, for improvements in velocipedes. Dated December 16, 1880.

„ 35. W. Woolley, of Birmingham, Saddler, for improvements in bicycles and other velocipedes. Dated January 4, 1881.

„ 450. A. M. Clark—a communication from A. J. Hurtu, of Paris, for improvements in sewing machines. Dated February 2, 1881.

„ 512. J. White, of Coventry, and G. Davies, of Manchester, for improvements in the construction of bicycles, tricycles, and other similar machines. Dated February 7, 1881.

„ 677. A. Andersou, and G. Browning, both of Glasgow, North Britain, for improvements in sewing machines. Dated February 16, 1881.

„ 725. W., W. J., and C. H. Haynes, all of Salford, Lancashire, for improvements in and material for covering the rollers used in preparing and spinning cotton. Dated February 19, 1881.

„ 830. H. Kinder, of Leicester, for improvements in tricycles. Dated February 26, 1881.

„ 837. F. Caldwell, of Loughborough, Leicestershire, for improvements in machinery and apparatus to be employed in the manufacture of knitted fabrics. Dated February 28, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 1,215. W. R. Lake—a communication from J. H. Moule, of Paris, for improvements in sewing machines, chiefly designed for use in the manufacture of boots and shoes. Dated March 27, 1878.

„ 1,234. W. E. Gedge—a communication from F. David, of St. Etienne, France, for an improved process by which terry or ribbed velvets may be manufactured by the aid of a needle-carrying shuttle. Dated March 29, 1878.

„ 1,274. W. Bown, of Birmingham, manufacturer, for certain improvements in springs for gloves and other purposes, and the means used for securing springs to gloves or other articles. Dated April 1, 1878.

„ 1,289. T. Simis, merchant and manufacturer, of Hamburg, Germany, for improvements in curtains. Dated April 1,1878.

„ 1,325. J. Nadal, of Southampton-row, London, engineer, for an improved clasp, or dress-holder. Dated April 4, 1878.

„ 1,397. W. R. Lake—a comunication from M. P. Carpenter, of New York, United States, for improvements in sewing machines, chiefly designed for straw braid-work. Dated April 8, 1878.

„ 1,401. B. A. Dobson, machine maker, and J. Macqueen, both of Bolton, Lancashire, for certain improvements in machines for spinning and doubling. Dated April 8, 1878.

„ 1,404. R. J. Watts and J. Memmott, both of Sheffield, for improvements in the manufacture of scissors. Dated April 8, 1878.

„ 1,409. J. Law, of Birmingham, gunsmith, and T. Law, of Wolverhampton, gunsmith, for improvements in velocipedes. Dated April 9, 1878.

„ 1,415. F. Bramley, of Mile End, London, for improvements in knife-cleaning machines. Dated April 9, 1878.

„ 1,435. T. Singleton, of Darwen, Lancashire, for improvements in sewing machines. Dated April 10, 1878.

„ 1,475. W. R. Lake—a communication from J. A. Davis, of Boston, Massachusetts, United States, for improvements in sewing machines. Dated April 12, 1878.

„ 1,495. W. and T. Pearson, both of Manchester, Spinners and Manufacturers, for improvements in the manufacture of valences for beds, windows, and other purposes. Dated April 15, 1881.

„ 1,574. C. M. Sombart—a communication from E. Loeper, of Magdeburg, Germany, for improvements in button-working machines. Dated April 18, 1878.

„ 1,599. W. Champness, of Manchester, for improvements in the manufacture of corsets. Dated April 20, 1878.

No .1,655. J. M. Palmer, of Cambridge, and C. A. Shaw, of Salem, both in Massachusetts, United States, for improvements in loom shuttles. Dated April 24, 1878.

„ 1,712. C. Greenwood and A. B. Crossley, both of Halifax, for improvents in the construction of rollers for washing and wringing machines. Dated April 29, 1878.

„ 1,385. J. J. Clarke, of Birmingham, Manufacturer, for improvements in the manufacture of fasteners for corsets and other similar fasteners. Dated April 22, 1874.

SPECIFICATIONS PUBLISHED DURING THE MONTH.

Postage 1d. each extra.

		s.	d.
No. 3,154.	J. Hunt, knife cleaner	0	4
„ 3,360.	H. Greenwood, sewing machines	0	8
„ 3,368.	B. A. Dobson, carding engines	0	6
„ 3,478.	N. K. Hushberg, bicycles, &c.	0	6
„ 3,507.	T. Pearson and J. Taylor, bobbin and shuttle tongue for shuttles	0	6
„ 3,589.	B. Berry and S. S. Freeman, spinning, &c. ...	0	6
„ 3,598.	C. D. Abel, bicycles and tricycles	0	6
„ 3,604.	T. Humber, T. R. Marriott, and F. Cooper, wheels for bicycles, &c...	0	2
„ 3,634.	W. Clayton, taking up motions for looms ...	0	6
„ 3,662.	E. Ward, sewing machines	0	2
„ 3,684.	T. Spivey, jacquard machinery for weaving ...	0	4
„ 3,688.	H. L. Wilson and J. Clegg, springs for washing, wringing, and mangling machines	0	4
„ 3,699.	G. Young, ring frames for spinning and doubling cotton...	0	2
„ 3,716.	T. Chadwick, T. Sugden, and C. Shaw, sewing machines...	0	8
„ 3,724.	R. Howson, pianofortes	0	6
„ 3,725.	W. Webster, sewing machines for stitching sacks, bags, &c....	0	6
„ 3,732.	A. C. Henderson, boxes for cotton balls of sewing machines	0	4
„ 3,744.	W. Webb, bicycles, tricycles, &c...	0	6
„ 3,749.	E. Wilkinson, carding and preparing wool, &c.	0	6
„ 3,787.	R. Tatham and J. Taft, machinery for opening, cleaning, scutching, and breaking up cotton, &c...	0	2
„ 3,798.	W. Jennings and T. Whittaker, spinning machinery	0	6
„ 3,843.	J. White, bells for bicycles, &c.	0	2
„ 3,848.	H. Mills, sewing machines for leather work, &c...	0	10
„ 3,890.	W. Morgan-Brown, machinery for sewing books	0	8
„ 3,892.	C. F. Wood, velocipedes, &c.	0	8
„ 3,910.	H. Woodward, combined knife-cleaning and sharpening machine	0	6
„ 3,910.	J. H. Lawson, velocipedes, &c.	0	2
„ 3,945.	J. Elce, spindle bearings of textile machinery...	0	6
„ 3,968.	A. G. Salamon, mounting the saddles of velocipedes	0	2
„ 4,036.	H. J. Haddan, sewing machines	0	6

INTERNATIONAL EXHIBITION 1880-1881 AT MELBOURNE, AUSTRALIA.

AWARDS TO SEWING MACHINE COMPANIES.

	Family Machine.	Hand Machine.
New Davies	1st.	1st.
Wheeler and Wilson	2nd.	2nd.
Standard, Johnson, Clark and Co. ..	2nd.	2nd.
Jones, British.....	2nd.	2nd.
Wertheim, German	3rd.	3rd.
Bradbury, British	3rd.	3rd.
Greinard and Co., German Singer....	4th.	4th.
Northmann do.	4th.	4th.
W. Cramer do.	5th.	5th.

The Singer and Howe Companies withdrew.

WHEELS FOR BICYCLES, &c.

Provisional protection only has been received by Messrs. Thomas Humber, Thomas Rushforth Marriott, and Frederick Cooper, of Beeston, Nottingham, bicycle manufacturer, for "improvements in the construction of wheels for bicycles and other vehicles."

Their invention consists of improvements in the construction of cellular wheel rims for bicycles and other vehicles, and in attaching the spokes to such rims. Cellular rims are usually constructed of one or two plates of thin metal, put together or formed into a single cell and of various sectional forms. This mode of construction may be described as the "single cell" principle. Such rims, although stronger and more rigid than ordinary rims, as long as they keep their shape, yet when they are subjected to sudden strains the shape of the cellular rim may become altered and distorted from its original sectional form, such alteration or distortion causing weakness; and, moreover, one of the plates, or a portion of the plate, may also, in consequence of such distortion split or break away, or become sheared from the other portion, the source of weakness and want of rigidity being in consequence of and arising from the possibility of change of shape of the single cell construction. In addition to the foregoing remarks it may also be mentioned that by the usual mode of attaching the spokes to the "single cell" rim the tension of the spoke is exerted in a manner which tends to cause rupture or breaking apart of the plate or plates forming the single cell rim. Now the improvements consist, first, in so constructing and arranging the several parts that the change of sectional form and shape is prevented, and thereby the strength and rigidity is greatly increased; and, secondly, in attaching the spokes to the rims in such a manner that such attachment also adds to the strength of the rim by forcibly drawing the plates together, and thus imparting an additional security against bending or rupture of the rim. They carry out the first part of their invention by forming the cellular rims of three plates of metal, two of such plates forming what we may term the shell of the rim, and the third plate being suitably formed in various symmetrical ways, so as to abut against and suitably support the two outside plates of the rim. The two outer outer plates are placed together, and the edges of one of such plate overlaps the other of such plates, while the third plate is so confined between the two that it acts as a strut and stay to prevent change of form, and thereby prevent any alteration of sectional form of such rim when subjected to the strains which arise in the ordinary working of bicycles. It will thus be seen that they increase the number of cells, and by the multiple cell system the rigidity and strength of the rim is greatly increased. They carry out the second part of their invention by attaching the spokes to that part of the shell of the rim which is farthest from the axle (the spokes passing through holes in the two other plates), and thereby causing the powerful tensional strain of the spokes to act centripetally upon the rim. By this mode of construction the ordinary tensional force of the spokes is utilised in forcibly holding the several plates of the rim together, and thereby rendering the separation of the plates forming the rim an impossibility. The outer ends of the spokes may have rivet heads formed upon them, and such rivet heads rest in countersunk holes in the plates farthest from the the axle, so as to form an even, smooth, and regular groove for the india-rubber tire of bicycle wheels. In applying their improvements to wheels of other vehicles they either provide for an india-rubber or other elastic tire or not, as may be required, and suitably arrange the form according to such requirements and the weight and character of the vehicles to which their improved wheels may be applied.

APPARATUS FOR CLEANSING AND POLISHING BOOTS.

Mr. T. G. S. McCarthy, of Knightsbridge, and Mr. Alfred Shakespeare, of Nassau-street, London, have obtained a patent for a new boot blackening apparatus. The inventors describe their inventions as follows: "The first part of our invention refers to a machine for cleaning boots and shoes whilst on the feet of the wearer. A bell shaped brush, having the brush or polishing surface in the hollow interior part, is mounted so as to revolve on a pin or axis supported in bearings at the base or lower part of a frame. Upon the brush axis a pulley is mounted and receives motion by means of a strap, a band passing over a driving pulley mounted upon an axis at the upper part of the frame of the machine. Motion is given to the driving pulley and brush by a crank handle or treadle. The foot with the boot or shoe thereon is placed in the bell shaped brush whilst the machine is in motion, whereby the same is readily cleaned. Two of such bell shaped brushes may be mounted if desired upon the same axis, one being used for removing the dirt and the other for polishing.

The bell shaped brush and its driving pulley can be mounted on the top or a frame of table, and set in motion by a treadle or crank handle, so that boots, shoes, or other articles may be cleaned and polished by hand. Another part of our improvements relates to the construction and arrangement of a machine to be placed in the hall or entrance to a building for cleaning and polishing boots and shoes whilst on the foot of the wearer. The machine consists of a standard or frame which carries a driving pulley at the upper part actuated by a treadle or crank handle. The pulley gives motion to another pulley near the base, a crank pin on the pulley giving a reciprocating motion by means of a connecting rod to a series of brushes forming an oblong box, in which the foot is placed and supported whilst the brushes are in action to clean and polish a boot or shoe upon the foot of the wearer. The series of brushes may consist of two straight ones moving to and fro so as to clean and polish the sides of the boot or shoe, and two curved or semi-circular ones (each of the latter being mounted on a pin or axis, upon which they partially rotate) for operating upon the heel or toe of the boot or shoe. These brushes are connected together, so that as the crank and connecting rod give motion to one it imparts motion to the others connected with it. The number, form, and arrangement of these brushes may be varied. Another very simple form of instrument or apparatus for cleaning a boot or shoe on the foot of the wearer, for the use of the shoe black brigade or others, consists of two straight double faced brushes connected together by a strap or elastic band to be passed round the heel of the boot or shoe, the other ends of the brushes having handles by which the user pulls them backwards and forwards see-saw fashion over the surface of the boot or shoe. When the dirt is removed the surfaces of the brush are reversed so as to effect the polishing. The boot or shoe may be mounted upon a last and fixed to a table or otherwise whilst the above described brush is applied thereto. According to another part of our improvements ordinary shoe or other brushes may be fixed in a frame by a set screw or otherwise. A to and fro reciprocating motion is given to the frame by a connecting rod and crank pin upon a pulley actuated by a strap or band lathe fashion, or it may be actuated by a crank handle by hand. The boots, shoes, knives, forks, spoons, or other articles to be cleaned or polished are placed on a table or fixed in a suitable holder whilst the brush or polishing surface is operating thereon.

Messrs. Beeman and Roberts, of 6, King-street, Cheapside, have been appointed sole agents for the United Kingdom for the Remington Type-writer.

W. HOSIER & CO.,

MANUFACTURERS OF

The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.

Also Perambulators with Bicycle Wheels.

Largest Dealers in the World in New and Second-hand Machines.

MIDLAND BICYCLE DEPOT.

SMITHFORD STREET, COVENTRY.

RENNICK, KEMSLEY & CO.,

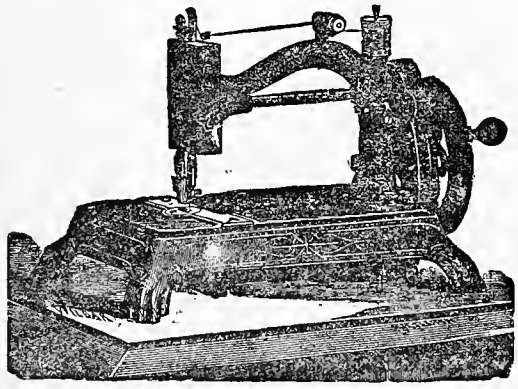
SOLE AGENTS IN EUROPE FOR

Johnson, Clark & Co.,

OF NEW YORK.

THE "HOME SHUTTLE"

Still keeps its place as being the best Hand Lock-Stich Sewing Machine in the world. It is exceedingly simple, never out of order, and always presents a bright and attractive appearance.



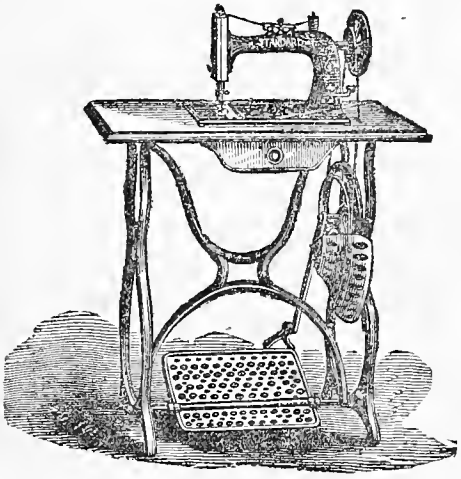
We have added the loose winding wheel and all latest improvements.

THE BEST TREADLE MACHINE IS THE

Light Running "Standard"

For Manufacturing and Family use.

Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.



IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

It is a Model of Strength and Beauty.

The most Elegantly Ornamented Machine in the world. Lasts a lifetime, and NEVER gets OUT of ORDER. EXCELS ALL OTHERS IN THOROUGHNESS OF WORKMANSHIP.

We wish to establish Agencies in all Towns, and will give exclusive territory to first-class houses, and furnish Machines at very low prices.

RENNICK, KEMSLEY & CO.,

(Late Johnson, Clark and Co.),

Finsbury Circus, LONDON, E.C.

THOMAS WARWICK,

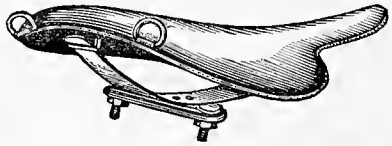
MANUFACTURER OF

By Royal Letters Patent. **BICYCLE MATERIALS**

Of every description, Wholesale and for Exportation.

WARWICK'S PATENT POTENTIAL RIMS.

SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

Price List Free on application to the above,

ALMA STREET,

Aston New Town, Birmingham.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

WE certainly hope that such facts as were revealed at a creditors meeting held at the Guildhall Tavern on the 30th ult. are of unusual occurrence in the sewing machine trade. The meeting in question was convened to receive a statement of the affairs of Mr. Harry Thomas trading as Smith and Co. at 30, Edgware-road, who has recently filed a petition for liquidation. A report of the proceedings will be found in another column. It will be seen that some very strong language was used, and to all appearance the transactions of Thomas with one of his creditors—namely, Mr. Grimwade—were of such a character as to call for a good deal of explanation. According to the debtor's statement, which, by the way, Mr. Grimwade did not in any way contradict, he had been in the habit of borrowing money from, and signing accommodation bills for, Grimwade, and had in several instances paid him more than one hundred per cent. per annum for advances. Thomas says that for a loan of £45 for three months he had more than once paid Grimwade £15 by way of interest, a statement which was received with surprise and something very like indignation by those who heard it. They properly thought that Thomas had been very foolish, but they also thought and said that Grimwade's conduct had been exceedingly reprehensible. For a struggling debtor who is trying his best to put off the evil day, and who like a drowning man catches at any straw that will keep his head above water a little longer one may feel something like pity, but for a wholesale house to attempt to bolster up an insolvent customer and suck his blood to the tune of one hundred and thirty cent. per annum there can be no excuse, and when a gentleman in the body of the meeting characterised these transactions as a fraud upon the body of creditors, we venture to think he was not very far wrong. Circumstances may perhaps

arise now and then which may justify a needy man in borrowing money on an emergency at twenty, or even twenty-five, per cent., but the calling of the wholesale vendor and the loan office keeper ought even then not to be followed by the same individual. But when, as in this case, the debtor kept up his payments to one creditor by borrowing money of him at a ruinous interest, we say plainly he did so to the wrong and detriment of everybody else who was giving him credit, and Mr. Grimwade must have known, when he was taking Thomas's cheque of £15 for the renewal of a £45 bill for three months, that such extortionate interest could only be forthcoming by a squandering of the assets, which belonged, not to Mr. Grimwade, but to the whole body of Thomas's creditors. It was clearly Mr. Grimwade's duty to have made Thomas bankrupt long ago, and not to have taken other people's money from him in usury at more than cent. per cent. We have never heard of such transactions in our whole experience before, and we earnestly hope we never may again.

Mr. George Sawyer, the genial manager of the White Sewing Machine Company, was the recipient of a very pleasant testimonial of esteem from the employés of the company at the London office. It will be remembered that the company has only been in its English premises but seven or eight months, but during that time the feeling of personal friendship for the head of the house has become quite general even among all the new employés which have been added to the staff to facilitate the rapidly growing business. On a recent date the first anniversay of the manager's natal day spent in England, he was presented by Mr. Reed, on behalf of all his associates in business, with a very elaborately finished and jewelled pencil-case, and who in a neat speech conveyed the idea that there was a hope that it might be freely used to figure out the large business which all hoped must accrue to the company from the energetic work of its manager.

Boot Blacking Machines, or as the language of the Patent Office hath it, "Apparatus for cleaning and polishing boots and other coverings of the feet," are fast increasing in number. The first machine invented was Southall's, which came before the public about four years ago. Since then there have been no less than twelve patents taken out for "apparatus" with which to clean the understandings of her Majesty's subjects. Messrs. Kent and Co. and Messrs. Bradford and Co. each sell a different boot blacking machine, another is sold by the Boot and Shoe Cleaning Company, of Halkin-street-west. In our last issue we described three, and in this issue are particulars of more such articles. Some of these machines, like the London Shoe Black Brigade, clean your boots while on your feet, others prefer to have them off, and some even need a supply of lasts to enable them to perform the operation. How many more machines are we to have for "japanning our trotter cases?" Is not a baker's dozen sufficient, or are some of them better in theory than practise?

OUR ILLUSTRATED SUPPLEMENT.

Messrs. Fenby and Fraser, of Neville Iron Works, Leeds, have just introduced to the shoe manufacturing trade some sole and heel cutting machinery. We illustrate as this month's Supplement Dennell's Patent Sole and Heel Press. The action of this press is very simple, and it is very economical, there being no waste in cutting. The machine is very rapid in its action, will use any ordinary slip through sole knife, and will do the work of four ordinary presses. The press, as shown in our illustration, is adapted for steam-power, but manufacturers not having such power can have a treadle appliance fitted at a small cost. Several large firms have already purchased these machines for their factories, including Messrs. Stead, Simpson, and Nephews, and Messrs. Snow and Bennett, of Leicester; Messrs. Dereham Bros., Bristol; Messrs. Howlett and White, Norwich; and Messrs. Scales and Salter, Leeds.

ANSWERS TO CORRESPONDENTS.

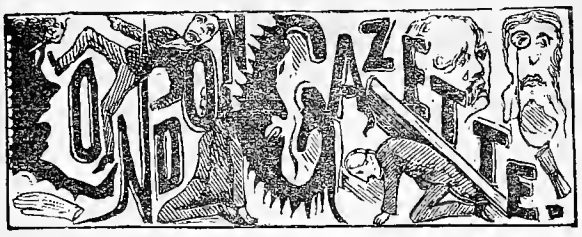
The following are the directions for using Richard's Plastic Metal:—Melt the ingots in an iron pot, or ladle, over a slow fire, then run the metal into thin strips like tinmen's solder. The bearing, or other article, having been thoroughly cleansed from oil and grease, should be heated hot enough (about 450 deg. Fahrenheit) to melt the Plastic Metal, then having first sprinkled a little ground sal-ammoniac upon the part to be re-faced, take a strip of the Plastic Metal and rub it on until a thin coating is formed, the metal may then be pasted on, layer upon layer, with a plumber's soldering iron, until the required thickness is obtained; or, it may be run on out of a ladle, having first made a core of dry sand, or iron plate, to the required radius of the bearing. When "pasting up" upon Plastic Metal first apply a little spirits of salts to the surface of the old Plastic Metal. Brass bushes, axle box bearings, &c., may be dispensed with, by casting all such articles entirely of Plastic Metal, in properly chilled moulds, which will then require no boring or turning. Glands of all sizes can be tinned and filled up perfectly sound.

BELLS FOR BICYCLES, &c.

Provisional protection only has been obtained by Joseph White, of Coventry, watch manufacturer, for "An Improvement or Improvements in or relating to Bells for Bicycles and other purposes." The object of this invention, which relates to improvemeuts in or relating to warning bells for bicycles and other velocipedes, the same being also applicable for other similar uses, is to provide an automatic bell of a simple construction, which can be caused to ring or cease ringing at the pleasure of the rider. The improved bell is constructed with a toothed wheel mounted upon a pillar or post rising from a base or plate, and actuated by a pinion on a shaft passing through the plate, below which it is fitted with a roller having a convex or straight bevil contact edge at the bottom. The complete bell is fixed on any ordinary front wheel break, so that the contact edge of the said roller can be brought against the revolving wheel of the velocipede, causing a rotation of the said toothed wheel, by means of which the tongue or hammer is actuated and the bell sounded. The roller is carried by a tube, a slot in which engages with a pin projecting from the shaft and imparts rotation thereto, and the tube is encircled by a helical spring, and by means of this arrangement the roller is allowed sufficient play and is enabled to adjust itself to the actuating wheel of the velocipede, or other machine, so as to avoid doing damage to the bell by the springing of the wheel or any other part of the machine. The principal feature of the invention is the working of the bell at pleasure from the actuating wheel of bicycles, or other velocipedes, or other machines.

A Suffolk man, aged seventy-nine, has given up smoking. He heard last week that it was injurious to health.

In the North of England tricycles are becoming extremely popular, and in Hull a club has been formed. The Mayor has been invited to occupy the position of president. Captain Scoping is the vice-president.



LIQUIDATIONS BY ARRANGEMENT.

Dix, Joseph, High Wycombe, ironmonger. April 28.
Gray, Robert Owen, Berwick-upon-Tweed, ironmonger. April 27.
Kirk, John, Bradshaw-gate and Clarence-street, Bolton, ironmonger. April 28.
Mullins, James, Covered Market, Leeds, ironmonger. April 28.
Taylor, Edward, Fonthill-road, Finsbury Park, London, Salford, Lancashire, and Shaw-heath, Stockport, Cheshire, laundry and dairy engineer and machine maker (separate creditors). April 26.
Thomas, William Edward, Edward Taylor, and James Fielding, trading as Thomas and Taylor, Fonthill-road, Finsbury Park, London, Chapel-street, Salford, Lancashire and Cheshire, late Market-street, Manchester, laundry and dairy engineers and machine makers. April 23.
Thomas, William Edward, Fonthill-road, Finsbury Park, London, Salford, Lancashire, and Hall-street, Stockport, laundry and dairy engineer and machine maker (separate creditors). April 26.
Smith, Henry Moreton, St. Anne's Well-road, Nottingham, ironmonger and general furniture dealer. May 11.
Thomas, Harry, trading as Smith and Co., Edgware-road and Queen Victoria-street, late Charles-street, Soho, sewing machine agent. May 12.
Hughes, George, trading as George Hughes and Son, Llandilo, Ironmonger. May 6.
Wilcock, John, Market-place, Clitheroe, Lancashire, ironmonger, whitesmith, and tin-plate worker. May 4.

BILLS OF SALE.

Pallister, William, Easington-lane, Durham, sewing machine agent; £7 10s. In favour of Mark Fryde. Filed April 10.
Midgley, William, 111, King's-cross-road, ironmonger; £58, &c. In favour of Thomas Fairhead. Filed May 2.
Bowers, Thomas, 58, Walsall-street, Wolverhampton, bicycle manufacturer; £7 5s., &c. In favour of Joseph Harris. Filed May 11.
Bryant, James Sutton, Crichlade, Wilts, ironmonger; £92 6s. 3d. In favour of Uriah Bryant. Filed May 18.
Crossley, Henry, Woodhouse, near Whitehaven, Cumberland, ironmonger's assistant. In favour of Elizabeth Bellman. Filed May 16.
Raison, Henry William, 11, 13, and 15, Rochester-row, Westminster, ironmonger, stove manufacturer, &c.; £65, &c. In favour of National Advance Co. Filed May 16.
Ramsay, Charles, 75, New Brandling-street, Monkwearmouth, near Sunderland, Durham, machine proprietor; £22 10s. In favour of Mark Fryde. Filed May 18.
Raynbird, George, Arden-street, Earlsden, near Coventry, trading as Kelsey and Co., in Courk 4, Well-street, Coventry, sewing machine manufacturer; £48. In favour of District Advance Co. Filed May 17.
Rudd, William, Clown, Derbyshire, machine owner; £163 19s. 3d. In favour of Helen Holeywell. Filed May 19.

COUNTY COURT JUDGMENTS.

Hopkinson, W., and Co., 27, Rye-lane, Peckham, sewing machine dealers; £22 10s. 9d. March 31.
Portsmouth, A., Basingstoke, Hants, ironmonger; £14 11s. 6d. March 29.
Jones, J. W., 32, Hereford-road, Westbourne-grove, ironmonger; £11 5s. 2d. April 7.
Robinson, A. K., Woodhouse-lane, Leeds, ironmonger.
Webb, Thomas, Westgate-bridge, Gloucester, machinist.
Webb, W., Westgate-bridge, Gloucester, machinist; £17 13s. 10d. April 1.
Webster, Henry, 62, New-street, Burton, Staffs, ironmonger; £10 3s. April 13.

DISSOLUTIONS OF PARTNERSHIP.

Evans and Williams, Llanidloes, ironmongers. April 2. Debts by Evan Williams.
Frost, J. P., and Co., Lord-street and Great George-street, Liverpool, general house furnishers. December 31. As regards Henry Eagles.
Haggard, Son, and Bunby, Rotherham and Mexboro', ironmongers. December 31. Debts by William George Haggard.
King and Co., Hull, iron merchants and ironmongers. December 31.
Oliver and Arundel, Bromley-street, Ashley-lane, Manchester, machinists. May 5. Debts by Henry Birkly Arundel.
Palmer and Holland, Aston, Birmingham, bicycle manufacturers. November 23. Debts by John Henry Palmer.

STORMY CREDITORS MEETING.

A meeting of the creditors of the estate of Harry Thomas, trading as Smith and Co., sewing machine dealer, 30, Edgware-road, was held at the Guildhall Tavern, on the 30th ult. There was a large attendance of creditors. Mr. Herbert Fricker, of the Wanzer Machine Co., took the chair. There was a considerable amount of discussion arising out of the proofs tendered against the estate, objections being taken to several of them by Mr. Young, the solicitor to the debtor, especially to those made upon bills of exchange drawn upon the debtor by Grimwade and Co., of Queen Victoria-street, E.C. The statement of affairs showed: Creditors fully secured, £193 8s. 10d.; creditors unsecured, £2,116 6s. 10d.; claims payable in full, £24 10s.; the assets consisting of stock in trade, £73; cash in hand, £1 5s.; furniture and fixtures, £57; book debts, nil. These assets being subject to a reduction of £33 8s. 10d. in respect of an execution which had been levied by a judgment creditor who had levied but was restrained from selling the stock till after the first meeting. Among the list of unsecured creditors were—

The Wanzer Machine Co.	£97	8	0
Gresham and Craven, Manchester ..	193	4	0
Ashworth and Sons, Bolton	13	16	6
Pace and Sons, Redditch	41	16	4
S. Thomas and Son, Redditch	35	12	4
The Howe Machine Co.	57	16	2
Wheeler and Wilson	9	10	11
Edward Todd..	26	19	0
Chas. Messent and Son	22	2	0
Grimwade and Co.	480	0	0
Cassell, Petter and Co.	14	8	6

The rest of the liabilities being chiefly for cash lent.

Mr. Young stated that a private meeting had been called some months ago, when the debtor was able to offer a composition of 4s. in the £; but the proceedings fell through in consequence of the impossibility of arriving at anything like a satisfactory adjustment of the debt alleged to be due to Messrs. Grimwade and Co., and that in consequence the estate had been frittered away, and there was nothing left for division among the creditors. Much indignation was expressed at the way Mr. Grimwade had wasted the estate and at the ruinous interest he had charged for cash advanced to the debtor, amounting in many cases to cent. per cent., and one creditor in particular denounced his conduct as fraudulent, and distinctly characterised him as a swindler. A long discussion followed with reference to some bills signed by the debtor for Mr. Grimwade's accommodation which he could not get discounted and promised to destroy, but had failed to do so. After a long discussion, in which strong language was freely used, the meeting separated without having passed any resolution except the usual vote of thanks to the Chairman.

WE understand that Messrs. B. F. Brown and Co. have received the highest award at the Melbourne Exhibition for their Satin Polish and other specialities. The firm have already gained the highest award at Philadelphia, 1876; the Gold Medal at Berlin, 1877; and the highest award and only medal at Paris in 1878.

"The Coventry Triumph" Bicycles & Tricycles.

WARMAN, LAXON, ASLATT & CO.,

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

JOSEPH DEVEY & CO.,

TOWER WORKS, PIPER'S ROW, WOLVERHAMPTON,

MANUFACTURERS OF THE "EXPRESS" BICYCLE,

AND

BICYCLE FITTINGS OF EVERY DESCRIPTION.

WHOLESALE AND FOR EXPORTATION.

THE LARGEST **SEWING** Machine "Belt" Manufacturers.

THE LARGEST SEWING **MACHINE** Oil Manufacturers.

THE LARGEST SEWING MACHINE **FITTINGS** Warehouse.

Bishop's Cluster Company, Limited, 25, Hamsell St., London, E.C.

SEWING AND MACHINE NEEDLES.

ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,

THE PARK WOOD MILLS CO.,

NEEDLE MANUFACTURERS,

Price Lists Free. 230, BRADFORD STREET, BIRMINGHAM.

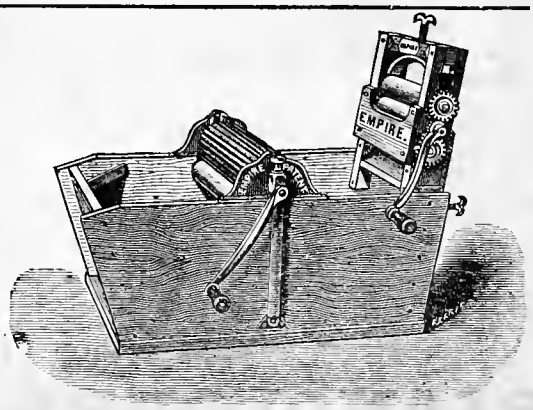
"EMPIRE" WASHER.

THE BEST AND CHEAPEST MACHINE FOR FAMILY USE YET OFFERED TO THE PUBLIC.

PRICES.

No. 1.	- - - -	£1 10 0
,, 2.	- - - -	2 2 0
,, 3.	- - - -	2 10 0

Liberal Discount to the Trade. For Illustrated List apply to Makers,

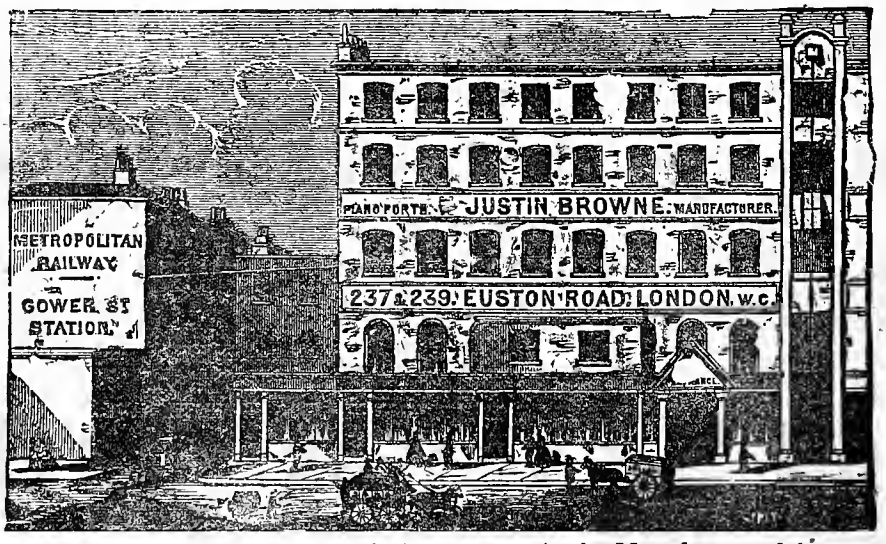


T. WOLSTENCROFT & Co.,

93, HIGH HOLBORN, LONDON.

JUSTIN BROWNE

PIANOS FOR TROPICAL CLIMATES

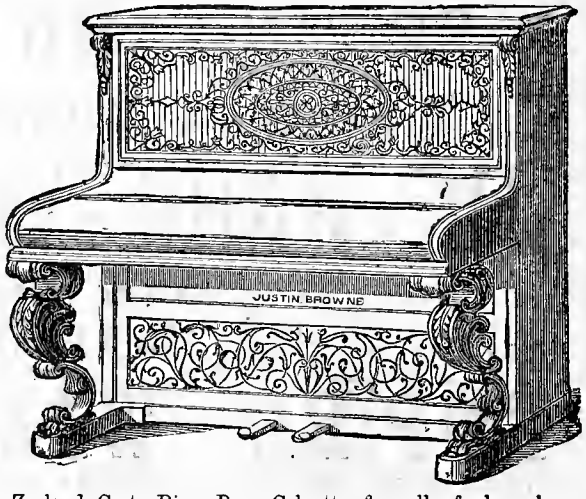


PIANOS WHICH WILL WITHSTAND HEAT OR COLD.

Having had a long practical experience in the Manufacture of the

PIANOFORTE

Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.



JUSTIN BROWNE can refer to customers whom he has supplied in New Zealand, Costa Rica, Peru, Calcutta, &c., all of whom have expressed the greatest satisfaction, and renewed their orders. His prices will be found to be extremely low in proportion to the quality of Pianos, and in comparison with those of other Houses where the same degree of soundness and durability is studied, the reason of the difference being that in their case, selling as they do retail, there are heavy expenses for Show Rooms, Advertising, &c., which as a Wholesale Manufacturer he does not incur; having only Factory expenses, he can offer an equally good instrument at a much lower figure.

CATALOGUES OF DESIGNS AND PRICES SENT FREE.

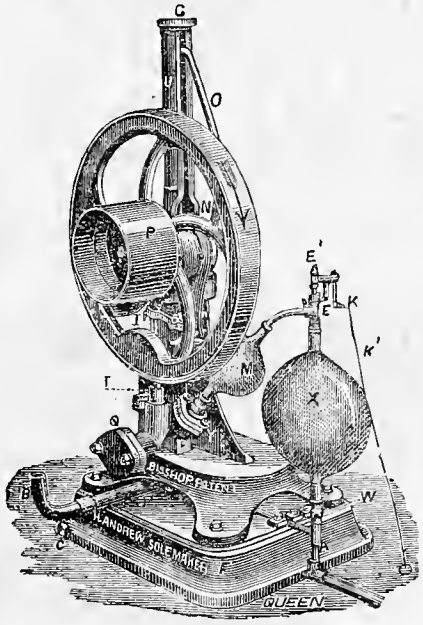
JUSTIN BROWNE,
PIANOFORTE MANUFACTURER,
237 & 239, EUSTON ROAD, LONDON, ENGLAND.

THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0 0
One-and-a-half Man	30 0 0
Two Man	35 0 0
Four Man	50 0 0

NO SEPARATE METER



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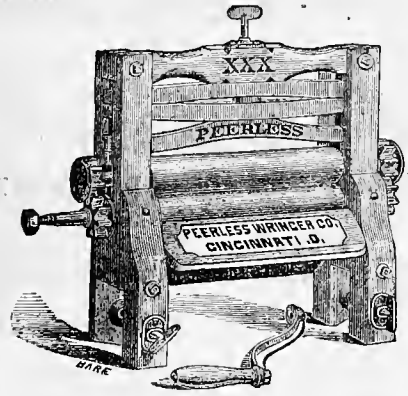

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WASHING MACHINE
£2 15s., OR WITH
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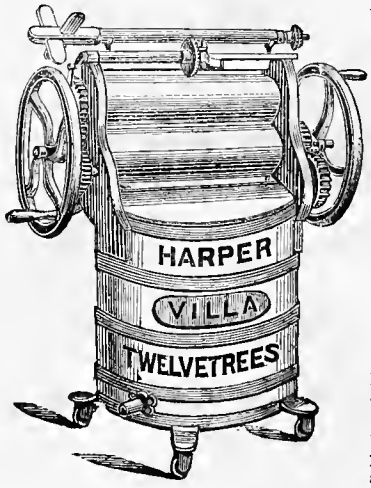

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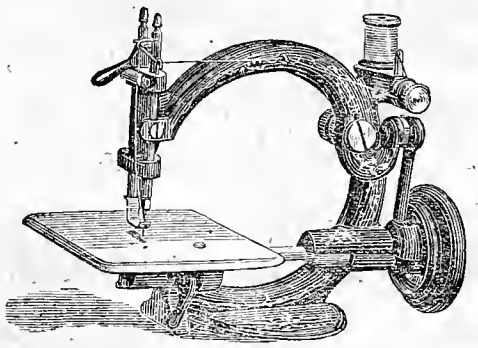

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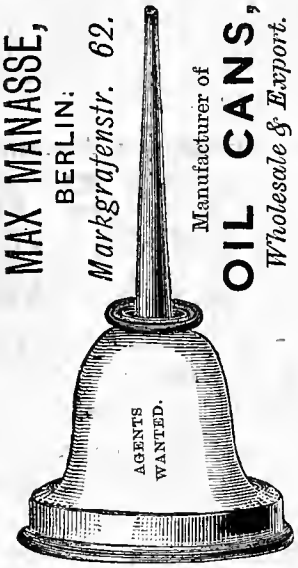

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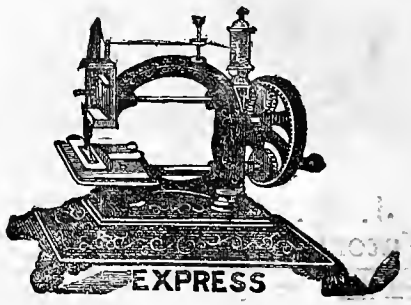

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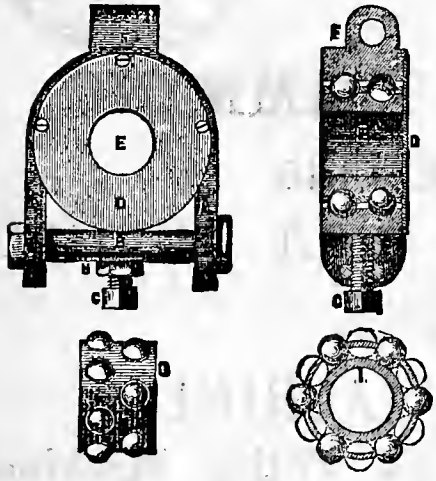

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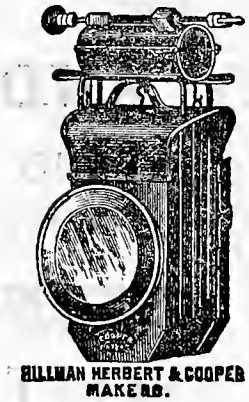

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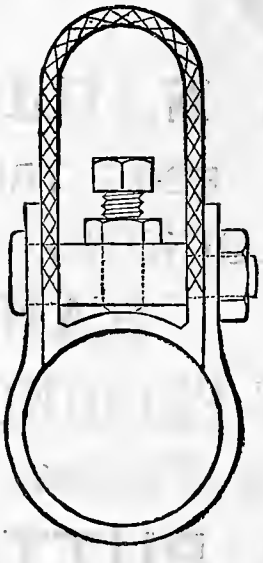

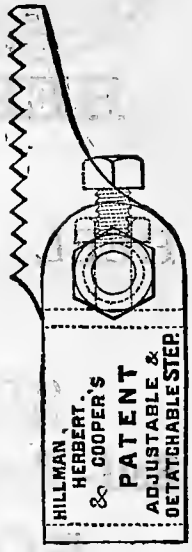

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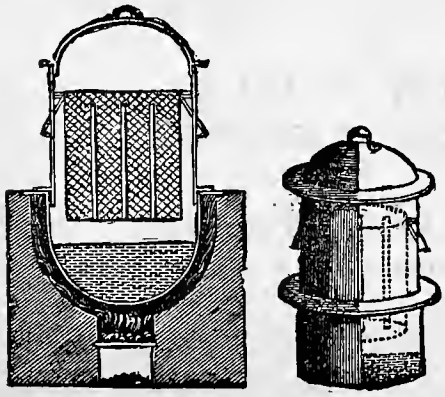

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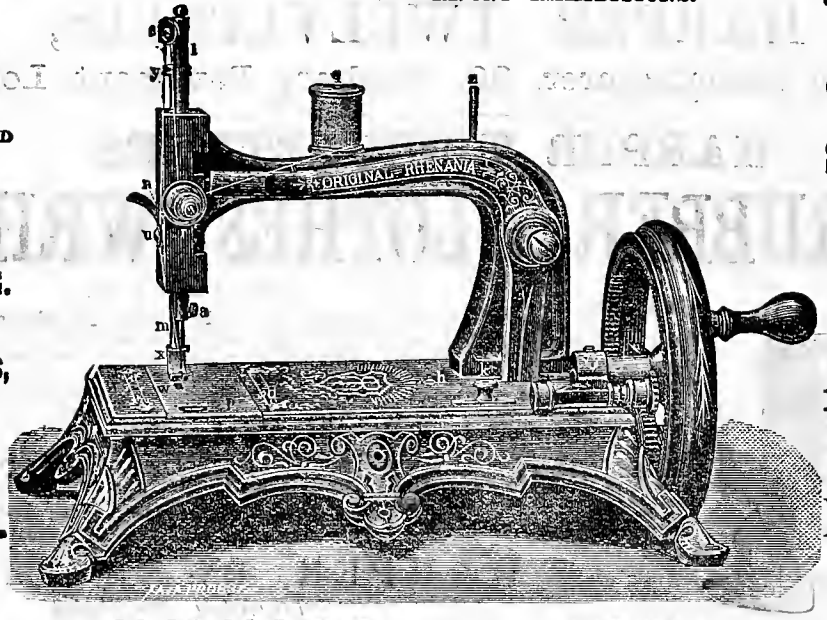

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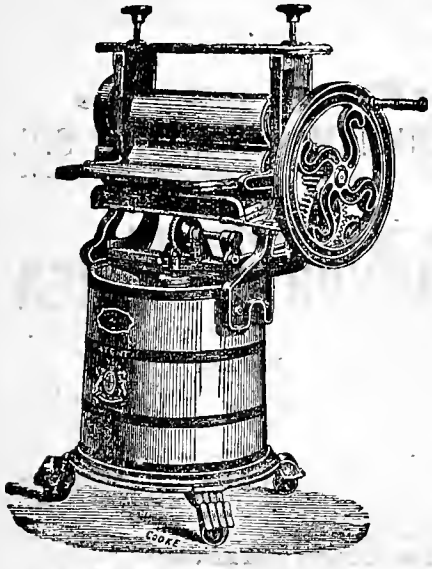

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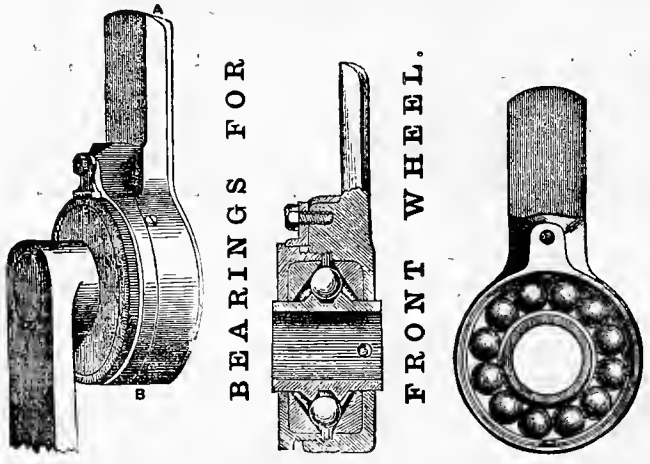

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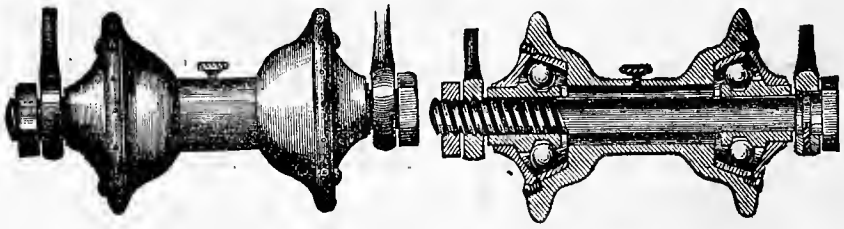
See Testimonals and Reviews.



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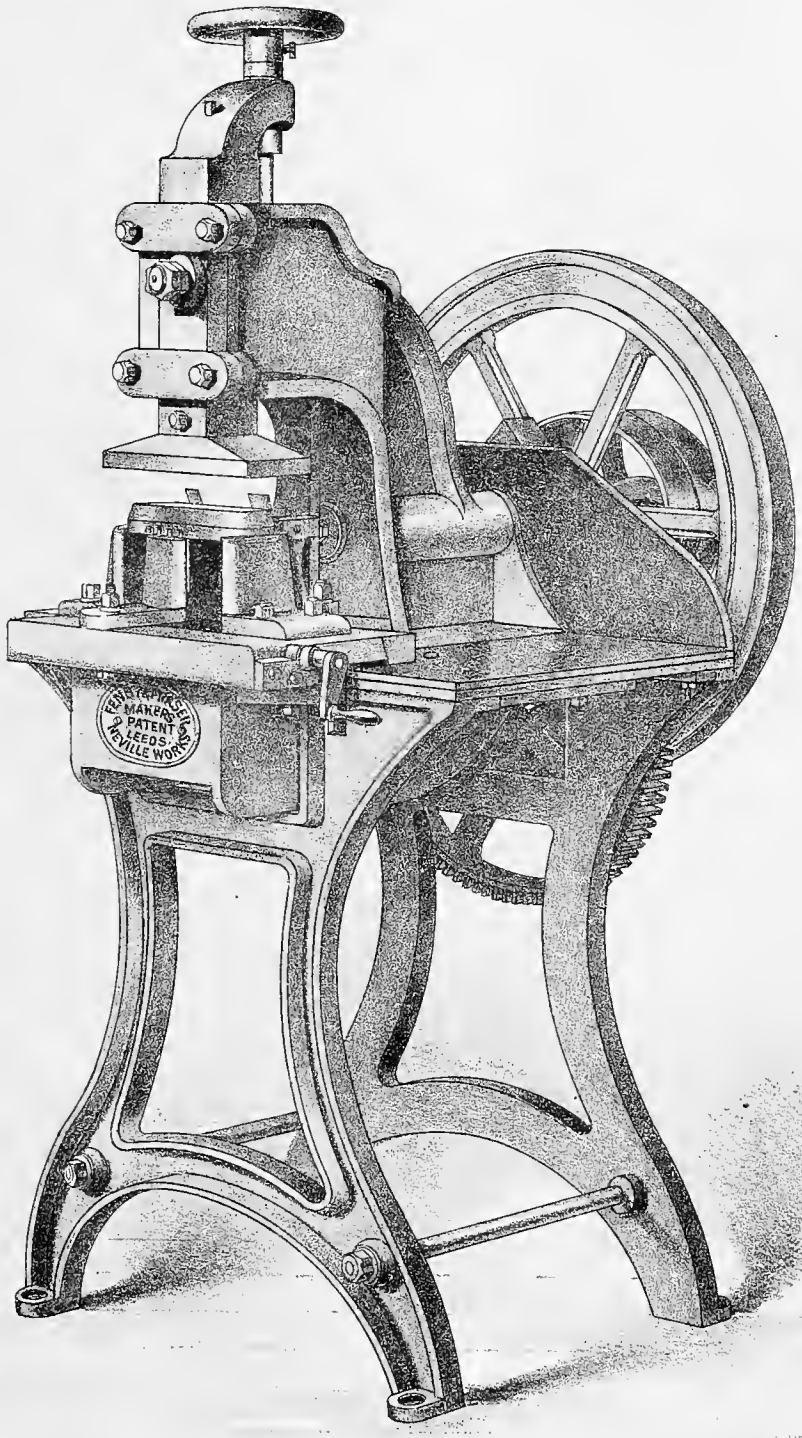

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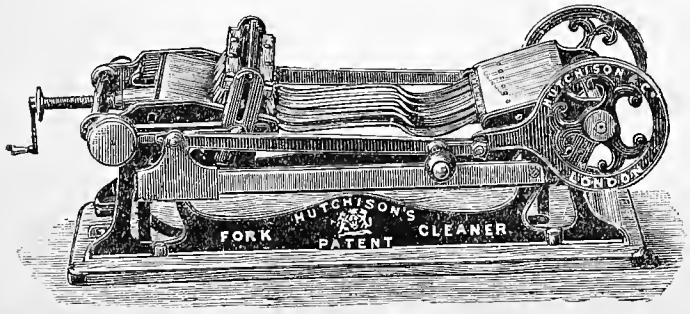
HUTCHISON'S PATENT FORK CLEANING MACHINE,



Length, 23 inches; width, 12 inches; height, 9 in.

Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

N.B.—This Machine is the greatest preventative of damage to which the prongs are exposed when cleaned by hand.

HUTCHISON'S PLATE POWDER,

As used in the Patent Fork Cleaning Machine. For cleaning and brilliantly polishing all kinds of Plate, Plated Articles, Metal, Tin, Pewter, Looking Glasses, &c. To be had at Oil and Colour Warehouses, and of Ironmongers and Storekeepers.

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THE

ONLY

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FOR

SEWING MACHINES

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NEW ROTARY-HOOK LOCK-STITCH

SEWING MACHINES,

Light, Medium, or Powerful, from £5 5s.

The New-Straight Needle Machines, for which the "GRAND PRIZE" was awarded, are the

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No. 6.—A Powerful Machine, capable of doing all grades of work, from the finest to the thickest, in the best possible manner, including all the various kinds of Leather work „ **£8 10s.**
Also No. 6 Cylinder Machine for special classes of Boot work ..... „ **£10.**

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The Well-known Original Family and Light Manufacturing Machines.

Nos. 1 & 2 ....Prices, **£6 10s., £7 10s.**

The New No. 8 Hand Machine, *specially recommended.*
Is the best and most perfect Hand Machine yet produced, and combines the utmost efficiency with elegance of appearance, reudering it suitable to the lady's boudoir or for travelling.
Price, WITH COVER, complete, **£5 5s.**

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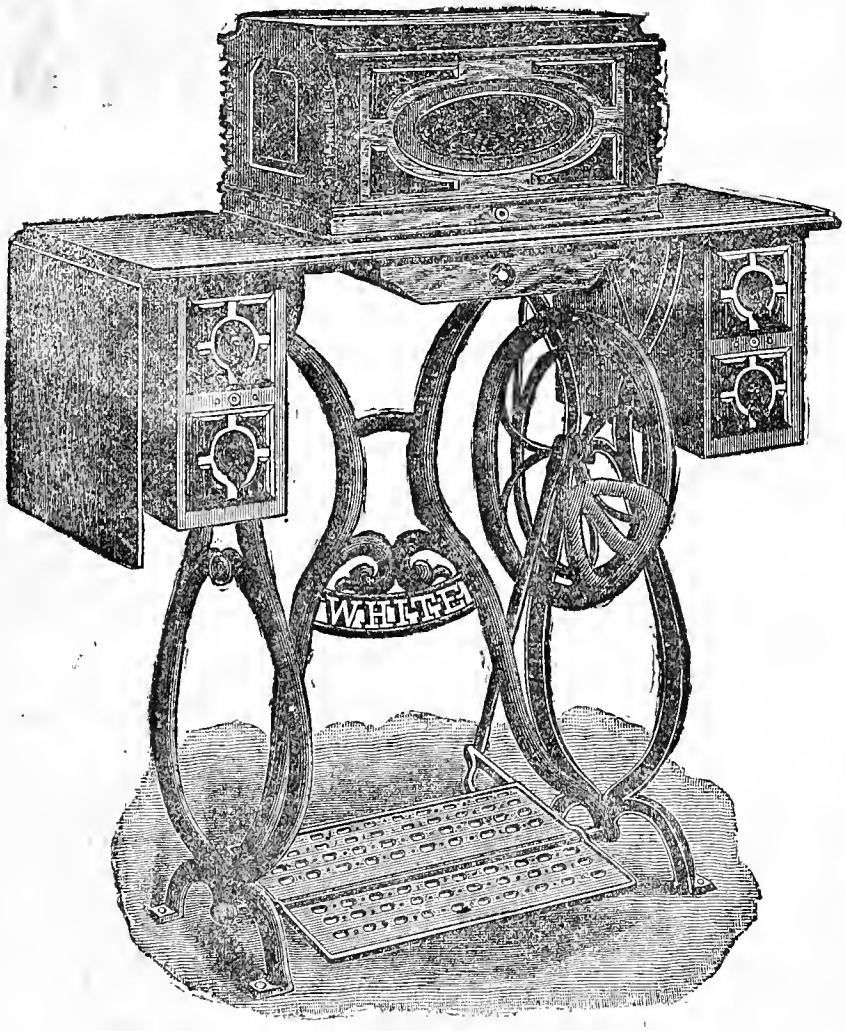
THE POPULAR FAVORITES FOR NOISELESSNESS AND EASY TREADLE MOVEMENT.



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Machines for all work. 12 various styles. | IN THEIR | Every machine Warranted for 5 years. Legal guarantee.

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IT IS THE FINEST FINISHED AND BEST MADE MACHINE IN THE WORLD.

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The Peerless Hand Machine.

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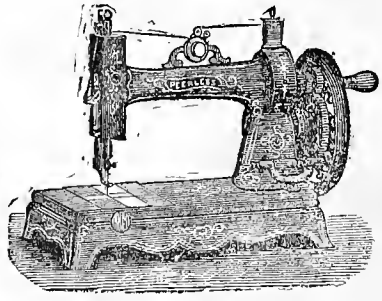

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Cheapest and Best in the Market. Warranted for 3 years.

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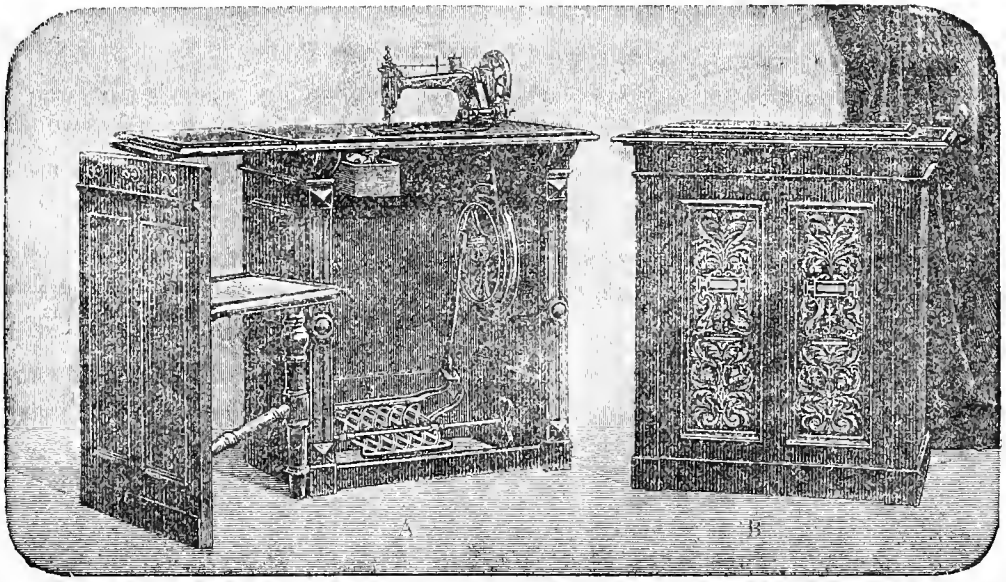
GRITZNER & CO., At DURLACH, in Germany.

Factory of Sewing Machines and Sewing Machine Cabinets.

Oak waxed or walnut polished, plain or with elegant Intarsia Ornamentation, or with fine Oil Paintings on Gold Ground.



The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

TO SEWING MACHINE DEALERS.

LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE.

Furnished for all systems of machines.

Very useful. More solid than iron stands.

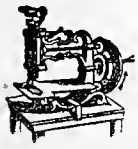
Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom.

RAYMOND'S
CANADIAN SEWING MACHINES.

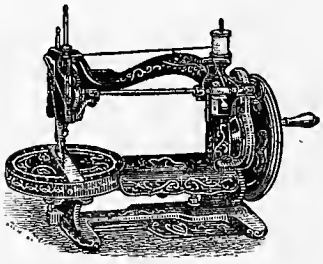


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work. Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

ALSO

Raymond's No. 1 and 2 TREADLE MACHINES for Families, Dressmakers, and Manufacturers

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P. FRANK, AGENT. ESTABLISHED 1863.

THE ELIAS HOWE SEWING MACHINES

MANUFACTURED BY

The Howe Machine Company,

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EXPRESSLY FOR BOOT & SHOE MAKERS,

FOR

SADDLE AND HARNESS MAKERS,

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Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

Branch Offices and Agencies in every Town in the United Kingdom.

Price Lists and Samples of Work FREE on application.

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Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

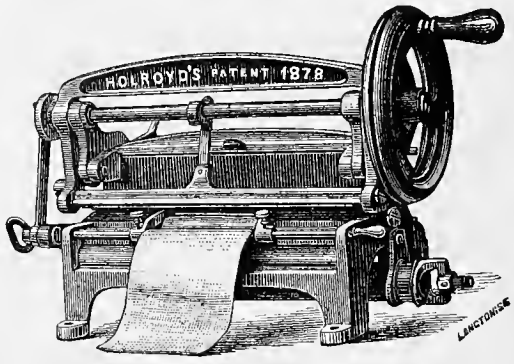
THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

It will make any kind of kilt desired, from the narrowest to an inch wide, and any depth up to ten inches, and can be altered to different styles and widths immediately, and in a most simple manner.

It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



Price, complete with gas arrangements and 4 heating irons, £3 3s.

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Combining all the latest improvements in **GILDING, BRONZING, &c.**, on rough or smooth surfaces, on any kind of metal goods.
Special Terms offered to Manufacturers of articles suitable for plating.

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	NETT CASH, RETAIL.	by the Half Doz WHOLESALE
The Celebrated "**TAYLOR FRICTION**" Improved...	£4 14 6	£2 0 0
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Mangles and Washing Machines at full Discount. MOTHERSILL'S **Patent BICYCLES** $33\frac{1}{3}$ per cent. off List Prices. Lists of Prices free on application.

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Sole Agent for England of Tucker and Avery's Anti-Friction Bicycle and Tricycle Bearings, operated entirely without LUBRICANTS.

The Trade and Shippers (only) Supplied.

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"ÆOLUS" BALL BEARINGS

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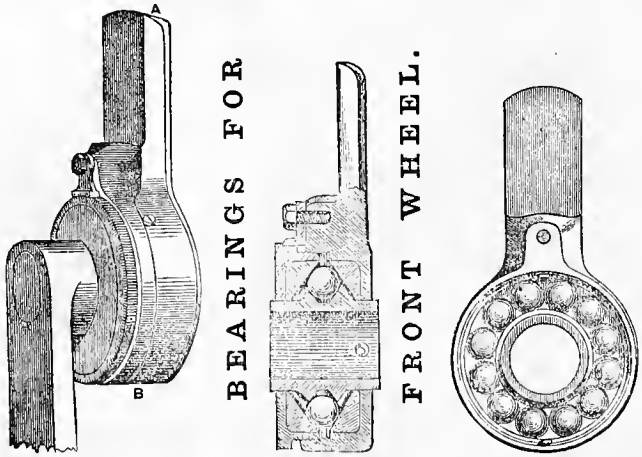

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BEARINGS FOR FRONT WHEEL.

AND REQUIRE BUT SLIGHT LUBRICATION.

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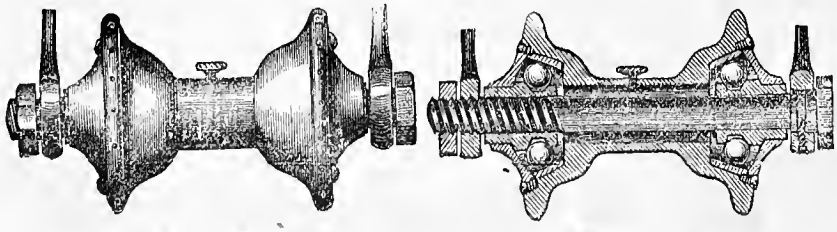
See Testimonals and Reviews.



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As a Proof of their Superiority over all others,

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Won the 25 and 50 MILES AMATEUR CHAMPIONSHIP RACES on a Bicycle fitted with "Æolus" Bearings, BEATING RECORD TIME, and in a Five Mile Race BEATING RECORD TIME in Three, Four, and Five Miles.

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In the SIX DAYS' RACE at LONDON, April last, rode the Unprecedented Distance of 220 MILES and some odd laps without dismounting from the Bicycle or once Oiling the Bearings.

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Best Steel Balls, Bicycle Fittings, and Requisites of every description and General Stamping in Iron and Steel.

N.B.—Considerable reduction in price of the "Æolus" Bearings this Season.

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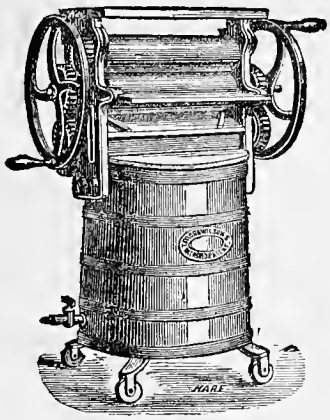
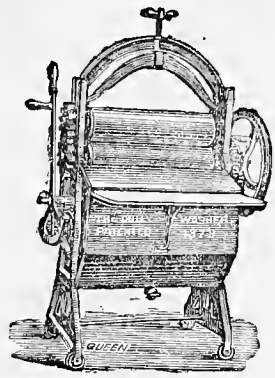


Price, £6 : 6 : 0.



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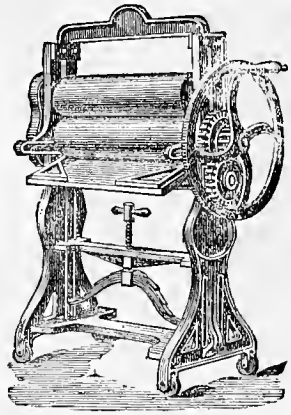

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Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

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No. _____

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II. In case of default in the punctual payment of any instalment, the instalments previously paid shall be forfeited to _____ who shall thereupon be entitled to resume possession of the _____, the understanding being that until full payment of £ : s. d. the _____ remains the sole and absolute property of _____ it is not to be removed from the undermentioned address, can be inspected at any reasonable time by any duly authorised agent or servant of _____ and is only lent on hire to the undersigned, who will take all reasonable care of it during the hiring, and in case of damage by fire or accident, bear the loss or risk.

Dated this _____ day of _____ 18

Signed _____

6d. STAMP.

Address _____

Witness to the above Signature _____

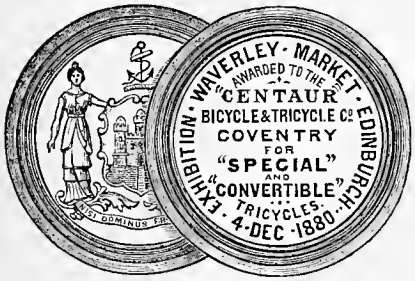
Address of Witness _____

All Change of Residence to be intimated to

The above Agreement is constructed on one originally drawn up by Lord Coleridge, the Lord Chief Justice of the Common Pleas, which was submitted to Sir Hardinge F. Giffard, Her Majesty's Solicitor-General, who is of opinion "that it confers no right in equity any more than at law to the goods in question, and consequently does not require to be registered under the New Bill of Sale Act.

Edinburgh Bicycle & Tricycle Exhibition, Dec., 1880

Where the Latest and Most Improved Machines for the Present Season were Exhibited.



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BEST ROADSTER BICYCLE AND BEST ROADSTER TRICYCLE

Were awarded to the "CENTAUR" COMPANY COVENTRY,

THE TEST BEING

EXCELLENCE of WORKMANSHIP, INGENIOUS CONSTRUCTION, and EASE of PROPULSION

Full Descriptive Catalogues of the "Centaur" Bicycle and Tricycles, with Testimonials, Post Free on Application.

LIBERAL DISCOUNT TO SHIPPERS AND THE TRADE. RELIABLE AGENTS WANTED.

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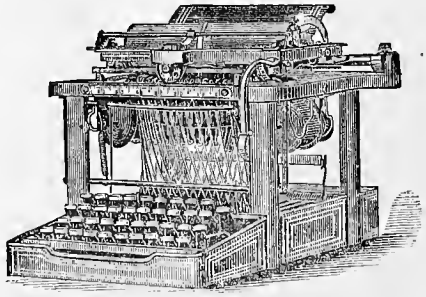
NO. 4. PERFECTED TYPE-WRITER.
It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, Lawyers, Clergymen, Doctors, Scientists, &c., &c., &c. Its advantages are great and numerous, and no one ought to be without one.

PROVINCIAL AGENTS WANTED.



NO. 2. PERFECTED TYPE-WRITER.
This machine prints Upper and Lower Case (capital and small) type, portable.

BEEMAN & ROBERTS, Sole Agents for the United Kingdom.

THE NEW STRAIGHT NEEDLE MACHINE

"Phœnix,"

Made on the new Wheeler and Wilson's principle (No. 8).

LATEST IMPROVEMENT: THE LOOSE WINDING WHEEL.

NEW HAND MACHINES ON THE SAME PRINCIPLE.

NOISELESS, LIGHT RUNNING AND DURABLE.

BAER & REMPEL, Billefeld, Germany. Sewing Machine Manufacturers.

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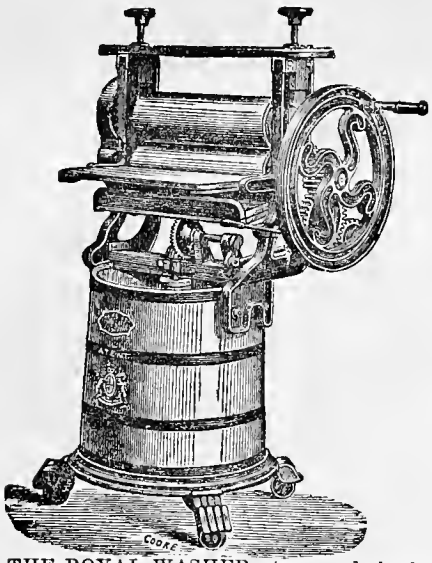

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Mortising Machines and Circular Saw Benches

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KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

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ONE TRIAL WILL PROVE THEIR SUPERIORITY.

L. & Co.'s Knitting Silks Wash as Well as any produced.

THE SINGER MANUFACTURING COMPANY,

The largest Sewing Machine Manufacturers in the World.

Upwards of **538,609** of these CELEBRATED MACHINES were Sold in the year 1880, being at the rate of over 1,800 for every working day.

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Excellence of Manufacture, Strength and Beauty of Stitch,

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Perfect Adaptability to every Class of Sewing.

PRICE from £4 4s.

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May be had on "Hire, with option of Purchase," by paying

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PER WEEK.

No Household should be without one of the Family Machines, which are **unequalled** for all Domestic Sewing. So simple, a child can work them.

MANUFACTURERS should see the Manufacturing Machines!

Are unsurpassed for the Factory or Workshop!

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31 & 33, Newington Causeway, S.E.
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278, Clapham Road, S.W.

144, Brompton Road, S.W.
269, Commercial Road, E.
174, Hackney Road, E.
45, Broadway, Stratford, E.
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Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Batley, Commercial-street
Bedford, 36, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street.
Birkenhead, 164, Grange-lane
Birmingham, 93, New-street
Bishop Auckland, 29, South-rd.
Bishop Stortford, Wind Hill
Blackburn, 54A, Church-street
Blyth, Woodbine-ter., Waterloo
Bolton, 52, Newport-street
Boston, 34, Market-place
Bradford, 38, Mechanics' Instit.
Braintree, 7, Fairfield-road
Brentwood, 3, Crown-street
Brighton, 6, North.,st., Quadrant
Bristol, 18 & 19, High-street
Bromley (Kent), 18, High-street
Burnley, 110, St. James'-street
Burton-on-Trent, 76, Guild-street
Bury-St.-Edmunds, 75, St. John-st.
Cambridge, 17, Petty Cury
Canterbury, 6, High-street
Carlisle, Lorne-bldgs., Bank-st.
Chatham, 342, High-street
Cheadle, High-street
Chelmsford, High-street
Cheltenham, 24, Pittville-street
Chester, 68, Foregate-street
Chesterfield, 1, Corporation-bldgs.
Chichester, 54, East-street
Chorley, 50, Clifford-street
Cleckheaton, 5, Crown-street
Clitheroe, 39, Wellgate
Coalville, Station-street.
Colchester, 32, St. Botolph-street
Colne (Lancashire), 8, Arcade
Congleton, 7, Mill-street
Coventry, 12, Fleet-street (or Bablake Church)
Crewe, 67, Nantwich-road
Darlington, 10, Prebend-row
Dartford, 18, High-street
Deal, 124, Beach-street
Denbigh, 36, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daisy-hill)
Doncaster, 23, Scot-lane
Douglas (Isle of Man), 5, Strand-street
Dover, 9, Priory-street
Dovercourt, Harwich-road
Dudley, 217, Wolverhampton-st.
Durham, 3, Neville-street
Eastbourne, 46, Terminus-road (two doors from post office)
Eccles, 31, Church-street
Exeter, 19, Queen street
Folkestone, Market-place
Gloucester, 116, Westgate-street
Grantham, 11, Wharf-road
Gravesend, 20, New-road
Grimsby, 57, Freeman-street
Guernsey, 17, Smith-street
Guildford, 161, High-street
Halstead, 53, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 57, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ilkeston, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 14A, New-street
Keighley, 2, Market-place
Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 164, High-street
Liverpool, 21, Bold-street
Longton (Staffs.), 12, Market-ter.
Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 32, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street
Maldon, High-street
Manchester { 105, Market-street / 132, Cheetham-hill / 438, Stretford-road
Manningtree, High-street
Mansfield, 32, Nottingham-street
Market Drayton, Shropshir -st.
Market Harboro', Church-street
Melton Mowbray, Victoria House, Market-place
Middlesboro', 59, Newport-road
Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 28, High-street
Newport (I of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Otley, 34, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street
Ramsgate, 31, West Cliff-road
Rawtenstall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Ripon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane and 100, Regent-road
Scarborough, 30, Huntriss-row
Scotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 61, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

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Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
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Glasgow, 39, Union-street
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Hamilton, 32, Cadzow-street
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Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Domnick-street
Kilrush, Moore-street
Kingstown, 65½ Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
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Wexford, Selskar-street.

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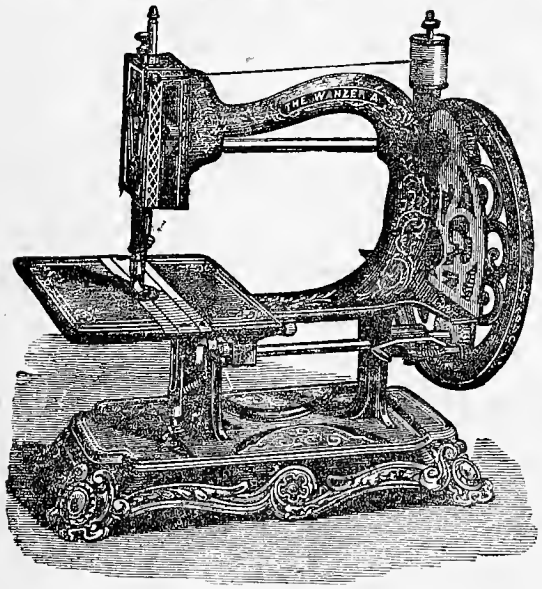

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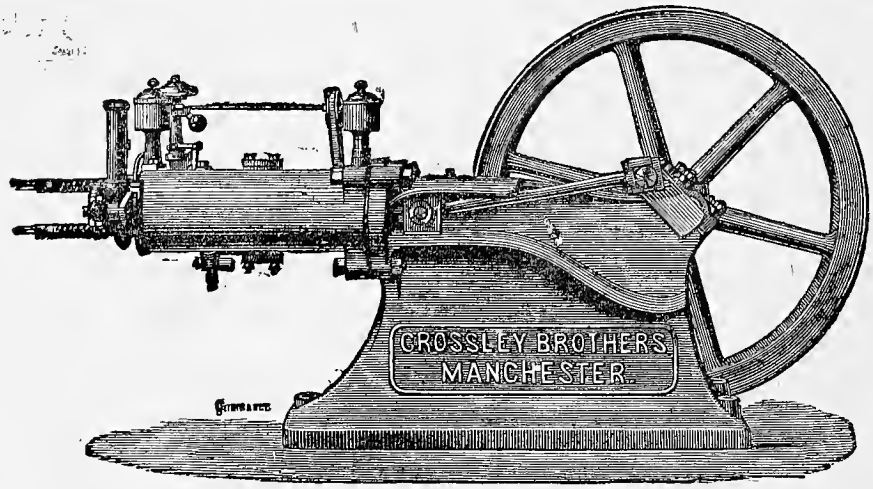

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The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. REDFERN, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 1,987. T. Coulthard, of Preston, Lancashire, Machinist, for improvements in machinery or apparatus for spinning and doubling cotton and other fibrous materials. Dated May 7, 1881.

„ 1988. A. Munzinger, of Olten, Switzerland, Manufacturer, for improvements in and connected with machines for spinning carded wool and other fibrous materials, also applicable to slubbing. Dated May 7th, 1881.

„ 2,009. J. F. Harrison, of Bradford, Commission Wool Comber, for improvements in machinery for combing wool or other fabrics. Dated May 9, 1881.

„ 2,049. G. M. E. Jones, of Cambridge, for an improved form of velocipede. Dated May 11, 1881.

„ 2,064. S. H. Saxby, Clerk, Master of Arts, Vicar of East Clevedon, Somersetshire, for so arranging the motor wheels of crank action tricycles that the power can be regulated at will without altering the length of stroke, the said arrangement being called cone-gearings. Dated May 12, 1881.

„ 2,065. G. W. von. Nawrocki—a communication from G. Neuhaus, of Kalkar, Prussia, for improvements in pianofortes. Dated May 1881.

„ 2,095. S. Tweedale, of Accrington, Lancashire, Foreman Mechanic, for improvements in machinery for spinning fibres. Dated May 13, 1881.

„ 2,145. W. R. Lake—a communication from D. H. Campbell, Machinist, of Pawtucket, RLode Island, United States, for improvements in wax thread sewing machines. Dated May 17th, 1881.

„ 2,146. W. R. Lake—a communication from D. H. Campbell, Machinist, of Pawtucket, Rhode Island, United States, for improvements in wax thread sewing machines. Dated May 17, 1881.

„ 2,161. A. Burdess, of Coventry, for improvements in the manufacture of tricycles. Dated May 18, 1881.

„ 2,164. W. R. Lake—a communication from C. M. Raymond, of Boston, United States, Manufacturer, for improvements in roller skates. Dated May 18, 1881.

„ 2,177. E. Blinhorn and T. A. C. Groebert—a communication from H. Axmann, of Vienna, for an improved construction of cotton and sock suspender clasps. Dated May 18, 1881.

„ 2,183. C. Pieper—a communication from J. Stern, Merchant, of St. Petersburg, Russia, for improvements in lock-stitch sewing machines. Dated May 19, 1881.

„ 2,202. E. Marshall, of Birmingham, Mechanical Engineer, for improvements in bicycles, tricycles, and other velocipedes, and for machinery in general. Dated May 19, 1881.

„ 2,208. W. H. Davey and H. Fabian, for ironing collars, shirts, cuffs, linen, fabrics, and other materials, and also for bringing up the cord or bead on collars and cuffs. Dated May 20, 1881.

„ 2,216. J. Imray—a communication from H. Buckofzer, of Berlin, for improvements in sewing machines. Dated May 20, 1881.

„ 2,221. J. W. Bannister and W. Bywater, both of Leeds, for improvements in means or apparatus for dressing and finishing woollen or worsted fabrics. Dated May 21, 1881.

„ 2,237. W. P. Thompson—a communication from P. de Ligne, of Brussels, for improvements in and relating to apparatus for displaying clothing and other articles in shop windows and other places. Dated May 23, 1881.

No. 2,246. G. Singer, of Coventry, for improvements in velocipedes. Dated May 23, 1881.

„ 2,258. H. J. Haddan—a communication from J. A. McKenzie, of Galesbury, Illinois, United States, for improvements in tricycles. Dated May 24, 1881.

„ 2,266. E. and L. J. Crossley, Carpet Manufacturers, and W. Sutcliffe, Manager of the Spinning Department, all of Halifax, for improvements in spinning and in machinery or apparatus connected therewith. Dated May 24, 1881.

„ 2,269. E. Smith, Manager, J. Cuttler, Foreman Mechanic, and W. Shaw, Manager, all of Bradford, for improvements in spinning and twisting. Dated May 24, 1881.

„ 2,270. W. T. Emmott—a communication from E. Appenzeller, of Mulhaussen, Germany, for improvements in apparatus for spinning wool and other fibres. Dated May 24, 1881.

„ 2,301. O. F. Viola, Cutter, of Ludgate-hill, London, for improvements in the skirts of ladies dresses, specially devised for use when riding on velocipedes. Dated May 25, 1881.

„ 2,310. W. Mather, of Manchester, Engineer, for improvements in apparatus for bleaching, dyeing, washing, scouring, and soaping cotton, flax, silk, and wool in the unspun condition, after spinning, and in the woven fabric. Dated May 26, 1881.

„ 2,313. F. McCance, of Belfast, Ireland, for improvements in the manufacture of woven fabrics suitable for table napkins, table cloths, towels, or other articles which are to be ornamented with embroidery. Dated May 26, 1881.

„ 2,315. B. F. Shaw, of the Grand Hotel, Charing-cross, London, for improvements in knitting machines. Dated May 26, 1881.

„ 2,322. M. P. Browne, of Blandford-square, London, for improvements in or connected with abdominal belts and fastenings therefor, the said fastenings being also applicable for stocking suspenders. Dated May 26, 1881.

„ 2,341. H. Empis, of Paris, for improvements in the manufacture of white and coloured yarns. Dated May 27, 1881.

„ 2,366. F. H. F. Engel—a communication from Guhl and Harbeck, Sewing Machine Manufacturers, of Hamburg, Germany, for improvements in covers for sewing machines. Dated May 30, 1881.

„ 2,390. W. R. Lake—a communication from A. H. Hebard, of Cambridge, Massachusetts, United States, for improvements in pianofortes. Dated May 31, 1880.

„ 2,422. G. F. Elder, of Lochee, Forfar, North Britain, for improvements in overhead sewing machines. Dated June 2, 1881.

„ 2,428. J. Hargrave, of Burley, Leeds, Gentleman, for improvements in machinery or apparatus for cleaning and polishing knives. Dated June 2, 1881.

„ 2,432. T. G. Wells, of Birmingham, Perambulator Manufacturer, for improvements in and relating to perambulators. Dated June 2, 1881.

„ 2,447. W. R. Moss, of Bolton, Lancashire, for improvements in machinery for combing cotton and other fibrous substances. Dated June 3, 1881.

„ 2,469. C. Pieper—a communication from E. Brüncker, of Cologne-on-the-Rhine, Prussia, for improvements in lock-atitch sewing machines. Dated June 7, 1881.

„ 2,485. P. Smith, jr., Machine maker, and S. Ambler, Draftsman, both of Keighley, Yorkshire, for improvements in spinning and twisting machinery. Dated June 8, 1881.

„ 2,516. J. Brentnall, of Mansfield, Nottinghamshire, for new or improved Jacquard machine or mechanism for producing in fabrics ornamentation of various kinds, for hosiery and other purposes. Dated June 9, 1881.

Letters Patent have been issued for the following:—

No. 4,697. W. H. Beck, of London, for improvements in ribbing apparatus for knitting machines. Dated November 15, 1880.

„ 4,703. J. E. Heppenstall, of Milnsbridge, near Huddersfield, for improvements in twisting or doubling machines. Dated November 15, 1880.

„ 4,707. E. Burstow, of Horsham, Sussex, for improvements in velocipedes. Dated November 16, 1880.

„ 4,732. T. Williams, jr., of Gee-street, and W. Sangster, of Compton-buildings, both in Goswell-road, London, Engineers, for improvements in machinery or apparatus for forcing sausage meat and other substances into skins or other suitable receptacles. Dated November 17, 1880.

„ 4,815. G. H. Nussey and W. B. Leachman, both of Leeds, for improvements in machinery or apparatus for pressing and tentering woollen and other woven or felted fabrics. Dated November 20, 1880.

„ 4,836. C. Pecker and R. Horstmann, both of Berlin, for improvements in whip-stitch sewing machines. Dated November 22, 1880.

„ 4,873. T. J. Palmer, of Letterstone-road, Fulham, and C. F. Dietrich, Engineer, of Shrubland-road, Dalston, both in London, for improvements in bicycles and tricycles. Dated November 24, 1880.

„ 4,880. T. Craven, of Keighley, Spinner and Manufacturer, and T. Muter, of Bradford, Stuff Manufacturer, for improvements in spinning machinery. Dated November 24, 1880.

„ 4,964. J. C. Garrood, of Fakenham, Norfolk, for improvements in velocipedes, partly applicable to other machinery. Dated November 29, 1880.

„ 4,975. J. Mitchell—a communication from J. Storey, of Brockville, Ontario, Canada, for improvements in washing machines. Dated November 30, 1880.

„ 5,021. T. Bradford, of High Holborn, London, Laundry Engineer, for improvements in and or connected with the driving-gear or actuating mechanism of mangles. Dated December 2, 1880.

„ 5,048. H. J. Griswold, of Charterhouse-square, London, for improvements in the manufacture of stockings, and in machinery for producing these and other looped fabrics. Dated December 3, 1880.

„ 5,082. A. Kirby, of Bradford, for improvements in the construction of velocipedes and apparatus connected therewith. Dated December 6, 1880.

„ 5,119. W. Bezer, of St. John-street, Smithfield, London, for improvements in skates. Dated December 8, 1880.

„ 5,135. A. M. Clark—a communication from F. de Sandoval, of Biarritz, France, for improved holders or attachments for retaing the bottoms of trousers and sleeves of other garments when turned up, to prevent soiling. Dated December 8, 1880.

„ 5,187. J. Summerscales, of Keighley, Yorkshire, Machine Makers, for improvements in washing and wringing machines. Dated December 11, 1880.

„ 5,209. W. and G. Benger, both of Stuttgart, Germany, for improvements in the manufacturs of shirts and drawers in one piece. Dated December 13, 1880.

„ 5,294. J. Radges, of Coventry, Tricycle Manufacturer, for improvements in the construction of wheels for transmitting motion in velocipede gearing; applicable also for other purposes. Dated December 17, 1880.

„ 5,304. W. L. Bigelow—a communication from J. Bigelow, of Philadelphia, Pennsylvania, United States, for improvements in sewing machines. Dated December 17, 1880.

„ 461. H. Dobson, of Hull, for improvements in skates. Dated February 3, 1881.

„ 679. J. Harrington, of Old-street, St. Luke's, London, for improvements in tricycles and bicycles. Dated February 16, 1881.

„ 856. W. Mather, of Manchester, Engineer, for improvements in machinery for stentering, stretching, and drying textile fabrics. Dated March 1, 1881.

„ 929. J. Hopwood, of Heaton Norris, Lancashire, for improvements in the construction of velocipedes. Dated March 4, 1881.

No. 1,020. J. B. Robertson, of Surgan, Armagh, Ireland, for improvements in sewing machines. Dated March 9, 1881.

„ 1,169. W. R. Lake—a communication from C. H. Veeder, of Plattsburg, New York, United States, for improvements in the saddles of bicycles or similar vehicles, and in supporting and adjusting devices for the same. Dated March 17, 1881.

„ 1,211. H. Mills—a communication from D. Mills, of Philadelphia, Pennsylvania, United States, for improvements in button-hole sewing machines. March 19, 1881.

„ 1,279. J. Holden, of Bradford—partly a communication from W. C. Bramwell, of Hyde Park, Massachusetts, United States, for improvements in apparatus employed in preparing wool and other fibres for spinning. Dated March 23, 1881.

„ 1,655. A M. Clark—a communication from A. G. Jennings, of Brooklyn, New York, United States, for improvements in cotton gins. Dated April 14, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 1,752. R. Hill, of Ashby-street, Clerkenwell, London, for improvements in darning machines. Dated May 1, 1878.

„ 1,794. E. J. Chambers, of Ipswich, Suffolk, for improvements in darning machines. Dated May 4, 1878.

„ 1,818. R. E. Gadsden, of Dunstable, Bedfordshire, Draper's Assistant, for improvements applicable to trousers, rendering the same available for bicycle riding and other purposes. Dated May 6, 1878.

„ 1,836. J. Aimers, of Galashiels, Selkirk, North Britain, Engineer, for improvements in the construction of spools or bobbins for use in thread or yarn preparing machines. Dated May 7, 1878.

„ 1,839. J. Hight, of Old Kent-road, London, for improvements in tumblers or washing machines for washing hides or skins, applicable for washing other articles, materials, or fabrics. Dated May 8, 1878.

„ 1,868. F. Leonardt, Merchant, and A. C. Andrews, Machinist, both of Birmingham, for improvements in sewing machines. Dated May 9, 1878.

„ 1,898. H. M. Knight, of Love-lane, London, for improvements in dress-holders. Dated May 11, 1878.

„ 1,201. N. Wilson, of High Holborn, London, Mechanical Engineer, for improvements in kilting machines. Dated May 11, 1878.

„ 1,920. J. Connolly, of Albion-road, Dalston, and J. W. Mercer, of Upper North-street, Poplar, both in London, for improvements in machinery or apparatus for plaiting or folding. Dated May 14, 1878.

„ 1,953. M. M. Brophy, of South-street, South Kensington, London, for improvements in bicycles and velocipedes. Dated May 15, 1878.

„ 2,056. R. H. Hutchinson, of Blackburn, Cotton Manufacturer, for a new or improved oil or lubricant. Dated May 23, 1878.

„ 2,074. A. M. Clark—a communication from E. Baillet, of Paris, for improvements in thimbles. Dated May 23, 1878.

„ 2,127. A. V. Newton—a communication from J. W. J. Thiemer, of Wandsbeck, North Germany, for improvements in sewing machines. Dated May 28, 1878.

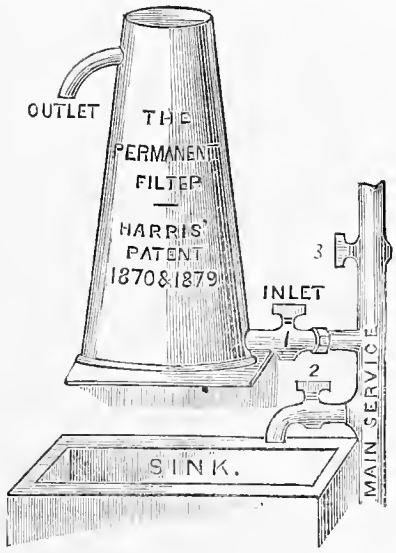
„ 2,154. W. E. Gedge—a communication from H. P. T. Duchesne de St. Léger, of Poitiers, France, for an improved machine or apparatus for cleaning and polishing knives. Dated May 29, 1878.

„ 1,527. T. B. Bishop, of Regent-street, London—partly a communication from G. H. Bishop, of New York, and H. M. Hall, of Philadelphia, Pennsylvania, United States, for improvements in sewing machines, and in attachments therefor. Dated May 1, 1874.

NOVELTIES IN DOMESTIC LABOUR-SAVING APPLIANCES

CONSTANT SUPPLY WATER FILTER.

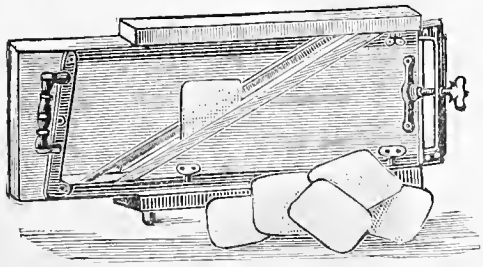
This filter which is known as Harri's patent filter and which is put in the market by Messrs W. F. Lotz & Co., Barbican is about 14 inches high and is made so that it can be attached to the main supply, and thus every drop of water used in a house is filtered before it is drawn off. This arrangement of the filter is very simple: inside the bottom of the filter, and in connection with the inlet pipe, a sheet of finely-perforated metal, rolled up many times, is fixed, through the perforation of which every drop of water must first pass. The water then



enters the filtering medium, with which the entire apparatus is filled, and which is of finely granulated charcoal. In reaching the top, the water has to pass through another coil of perforated metal, as at the bottom. Ample arrangements are made for cleansing. As the filter is always full, by turning off the supply tap and turning on the lower one, it empties itself, and this process may be repeated as often as may be desired; but, independent of this, a union joint is provided by which the filter can be disconnected at any time, and the tap being loose, the whole contents can be taken out and washed, and by putting in the oven and being, so to speak, rebaked, it can be returned perfectly fresh and equal to new.

THE UNIVERSAL SLICER.

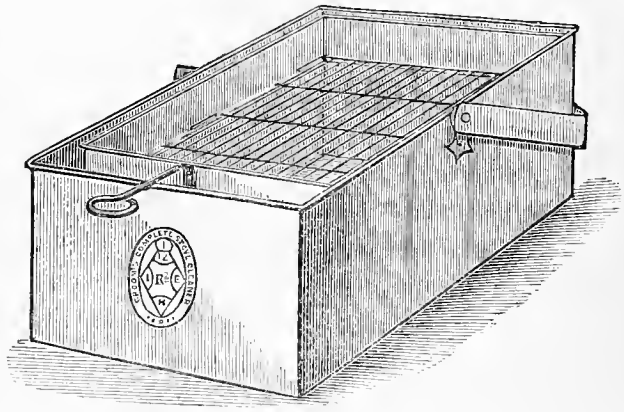
The Universal Slicer is the name given to a new bread cutting apparatus, patented and sold by Messrs. Thos. Wolstencroft and Co., 93, High Holborn, W.C. It is a thoroughly well



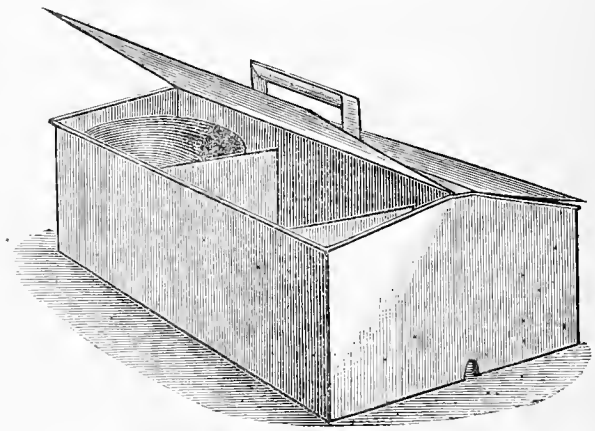
made article, and indispensable to hotels, restaurants, coffee palaces, and to large families, as with it either new or old bread, cake, bacon, tongue, or any meat free from bone; vegetables or fruit may be sliced to any desired thickness with ease and rapidity. We have seen one in use, and it certainly is a great time and labour saver, as well as economical. The retail price is 21s.

GROOM'S COMPLETE STOVE CLEANER.

This is a cinder sifter and housemaid's box combined, and it is designed so as to enable the servant to carry upstairs in one hand every article necessary for the cleaning of fireplaces, the



other hand being free for dustpan and broom. It is well known that servants have a great dislike to sifting or burning cinders, and when they are once taken away from the rooms the chances are that they will eventually find their way into



the dust bin. The machine is constructed with a lid to render it dust proof and is to be used in the room, the cinders being taken out and used for lighting the fire. The upper part contains a pan for mixed blacklead and brush, a compartment for packets of blacklead, gloves, leather and emery cloth, polishing brushes, and duster or clean leather. The manufacturers are Messrs Groom & Co., Liquorpond-street, Clerkenwell, E.C.

THE "WILSON STYLUS."

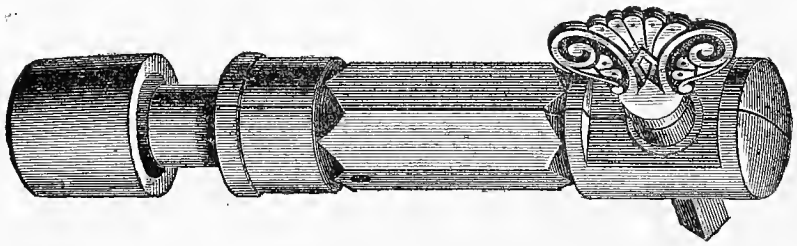
A very clever invention is the "Stylus," or fountain pencil pen, patented and manufactured by Messrs. Newton, Wilson and Co., 144, High Holborn, W.C. This new writing instrument is a marvel of simplicity. It writes with ink, yet with more than the freedom of a lead pencil, and is as nearly automatic or self-acting as it is possible to conceive. It is literally self-opening, self-closing, and self-filling. The contact of the

point with the paper, at the same moment and by the same movement, opens the ink vent at the point and the air valve at the head; the withdrawal of the pen as instantly closes both. It can be carried with perfect safety in the pocket. For an

ordinary writer it requires filling but once a week, and then it fills itself in the time it takes to read this sentence. It will be found indispensable to professional men, lawyers, physicians, architects, &c., while the convenience of dispensing with the travelling ink bottle to the hosts of collectors of rents, rates, taxes, water, gas, &c., will not fail to be appreciated. Finally, the "Stylus" cannot possibly get out of order if the simple directions for use are observed. The retail price of the "Wilson Stylus" is from 2s. 6d. in plain metal, to 6s. 6d. in best nickel gilt. The convenience of such a pen and pencil combined may be imagined when it is known that some 20,000 to 30,000 words may be written with one filling of ink.

NEW BURGLAR-PROOF BOLT.

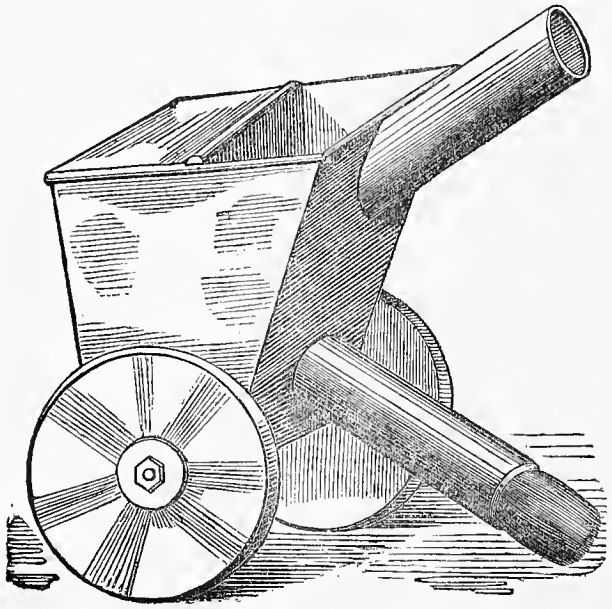
The Russell and Erwin Company, of Upper Thames-street, E.C., have introduced from America a bolt, which is to resist



the exertions of gentlemen of the Bill Sikes' profession. The engraving above gives an illustration of the bolt. It is let into the door like a mortice-lock, but, being round a centre-bit, soon makes the place to receive it. The "shooting" hole in the door-frame has a "bashed" socket similarly fixed. The bolt is "shot" by a half-turn of a small flat handle, and cannot, by any possibility, be tampered with from the outside, as may be done to ordinary bolts.

LAWN TENNIS MARKER.

Lovers of lawn tennis will appreciate the little invention of Messrs. H. Mallory and Sons, of 395, High-street, Cheltenham, shown in the engraving below. The price of this lawn tennis



marker is moderate, and we recommend it to dealers in domestic machinery as a novelty that will find purchasers now that the game of lawn tennis is so much played and is so fashionable. We need scarcely say that it will number the days of white tape and hair pins, so often used by ladies as a substitute, and which always come unfastened with the least puff of wind or a catch of the toe. We do not know if Major Wingfield has seen this useful invention, but we are sure he would approve of the same.

BICYCLING AND TRICYCLING.

EXHIBITION OF MACHINES AT LONG ACRE.—In order that the public may have a fair opportunity of comparing a large number of makes of bicycles and tricycles, the directors of the Universities Co-operative Association have got up an extensive exhibition of cycles in the top floor of their premises in Long-acre, formerly known as the Queen's Theatre. The large hall set apart for the exhibition is admirably suited to the purpose, and there is plenty of room, not only to look at, but to try the machines, in fact, the latter facility is taken advantage of far too freely, and is, therefore, a source of danger to the spectators. Some marvellous exhibitions were given by Scuri on the Unicycle during the evening. W. M. Williams, of the Temple Bicycle Club, is acting as master of the ceremonies, and, under his able management, the "show" is getting into order. We would suggest, however, that descriptive labels be attached to every machine. The most prominent sight on entering the room was one of Sparrow's Amazon (ladies') bicycles being driven round the hall at a high rate of speed by a fair young cyclist. The extreme difficulty of mounting and starting will, we fear, prove a barrier to its success; the position, too, is not so graceful as in its only rival—the Otto. A couple of the last-named were also present, and attracted great attention by the ease with which they were propelled, both by the young lady, who is so well known in connection with it, and by a boy, who never seemed to tire of making countless circuits of the apartment.

On the first dais, that most remarkable of machines, the Unicycle, was shown. It consists of an ordinary bicycle front wheel, forks, handle bar, spring, and saddle, but the backbone is cut off short about 16in, from the socket head. It is a very curious affair, and its rider must possess marvellous balancing power to be able to ride it. The one used is of foreign manufacture, and very old fashioned. We hope to see M. Scuri better mounted ere long.

A large sized Devon stood next; it was evidently one of last year's make, but had double driving and a very strong ground brake. It somehow lacks the neatness of finish so prominent in many of its rivals.

The Rotary Coventry has made rapid strides to the front, and the original bicycle seems in a fair way to regain its former popularity. Large gunmetal hubs, direct spokes, ratchet steering, and ball bearings are among the new additions.

A very large double Convertible looked strong enough for anything. It had all the special features, and could, moreover, be converted into a single machine by removing half of the frame and substituting a smaller wheel. We have lately seen several double machines at work, and they are fast gaining ground in popular favour. The same firm (Centaur Bicycle Co.) also showed one of their single bicyles.

The Rob Roy (Zephyr Bicycle and Tricycle Co., Coventry) looked exceedingly neat; we have several times spoken favourably of this excellent machine. The direct action driving power, and "speeding" or "gearing" of the wheels is a decided advantage, as it does not call forth so much extra strength as is generally required where similar means are resorted to. We will shortly describe this machine at length. Its stable companion—the Zephyr—is constructed more on the ordinary lines, and is driven by chain action. It is open in front, and has the small wheel behind.

The Carochе Company has two machines, one of their ordinary full size, and a child's.

On the sixth dais there stood an extraordinary affair—a small wheel with a large frame and very long handle. It proved a mystery, and the large photo did not help to explain matters.

A very handsome three-wheeler by the Birmingham Small Arms Company completed the show of tricycles. It was elaborately plated and ivory mounted. It is driven by chains at each side, but, by an automatic clutch, the pedals may remain at rest when the machine is moving.

The bicycles were not very numerous. Among the new names we noticed the Hampton, from Wolverhampton, but sold in London.

Hydes and Wigfull's new make (the Marmion, at £12 10s.) promises to be in extensive demand, as it is well worth the price. They showed three other machines.

A revolution has taken place in the Nonpareil (Stassen and Son). The firm have, at last, given up their cumbersome and heavy hubs, light gun-metal taking their place. The whole machine is also improved in appearance.

The Forester (Ford Co., Wolverhampton), at £5 10s., looked as if the wrong card had been placed upon it, as it seemed impossible to produce it at the money.

M. D. Rucker showed a splendid 56in. or 58in. "Rucker," a roadster that had seen considerable service, with handle-knobs turned towards the rider. It is a grand machine for all-round work.

A very large Safety Devon stood beside it, and attracted a good deal of attention.

An extinct make was revived in the Standard, built by Wheaton. It was, however, a very old machine newly painted.

The Zephyr Bicycle and Tricycle Co. showed three two-wheelers in addition to their tricycles.

D. Rudge and Co. had three of their famous machines, the beautiful fit and finish of which was greatly admired.

Hillman and Herbert had two machines, the Stanley Hollow Fork being a fine machine.

A single Bicycle was contributed by the Centaur Bicycle Co. The new Planet bicycle, *à la* Pony, seems to be one of the most successful dwarf bicycles we have yet seen.

Three machines by the Coventry Machinists' Co. conclude the list of machines in position on Wednesday. Of the trio, the new direct spoke type was by far the most attractive. It was, however, intended for a racer.

Among the firms who supply the countless "extras" required with the modern bicycle, Salisbury, of lamp fame, and the King of the Road (Lucas) were prominent. Tyler's medals, Prout's glue, Mappin and Webb's display of prize trophies were among the extra attractions.

The exhibition will remain open permanently, but is a special affair at present.—*Bazaar and Mart.*

TACT.

Tact very often distances talent in the race for success, and its possession is rated as of nearly equal value by many men who have made their mark in the world. It is a nice perception or discernment of the exactly proper thing to say or do upon any given occasion. It can accord a favour without making the granting seem too cheap, and it can refuse a request in such a way as not to merely take away the sting of a refusal, but even to create almost as good an impression as if it had been granted. There is no greater smoother of the pathway of life than the exercise of tact. In social, family and business relationship it steers clear of difficulties which beset, annoy, and seem almost insurmountable to those who have not the peculiar faculty of the man of tact. No qualification can do more to help along one's aim and purposes in life; no element of character is a more powerful agent in shaping a career. The man of consummate tact often reaches the same pinnacle of success as the man of commanding talent, but by a far different route; the latter forces his way by the vigorous exercise of his native ability; the former glides gently along by shrewdly adapting himself to others' dispositions and controlling his own.

Tact is not a natural gift; it is an acquired accomplishment. It is the result of careful observation and reflection; it is the training of one's character as a gardener trains a vine, avoiding the dark and shadowy spots that retard the process of growth, and twining in the direction where the sunshine nourishes and developes. To practice tact successfully it is necessary to have a good knowledge of human nature, and when entering upon this interesting study the first lessons should be introspective. "Man, know thyself," is an injunction the wise will not fail to obey. It is surprising how an insight into one's own character will give the keynote to the dispositions of others, so much are we all alike; and the habit of studying our own natures soon leads us to observe the dispositions of others, and thus learn to read their very thoughts and skillfully adapt our own actions towards them accordingly. In dealing with customers, tact

comes into full play, and is an essential part of the make-up of a good salesman. To understand the fancies, prejudices, whims and expectations of customers, and to forestall and meet them, requires adroit tact. To act with tact in a natural, unconstrained manner demands great suppleness, pliability or adaptability of character to conform to the numberless phases of constitutional peculiarity; but tact should not be mistaken for deceit, with which it is sometimes confounded.

Some people affect to despise tact as too ignoble for blunt, honest natures, and pride themselves upon being plain, outspoken people. The man of tact will let these egotists believe that he admires their boasted openness of character, but in his heart he will despise such weakness, and he will not fail to turn it to his advantage, if he can use it.—*Sewing Machine News.*

OUR UNJUST PATENT LAWS.

By John Frearson, M.E.

I know of no laws which so much need revision as our Patent Laws. Surely the present Government will make an alteration in them, which will result in being more just to inventors, and lead to the revival of our declining trade and commerce.

Superficial observers do not see the primary causes of the depression of trade and commerce—they look at the proximate causes only—and our law-makers are so superficial that they generally resort to palliative measures instead of going to the root of the matter.

We are more indebted to discoverers and inventors than is generally supposed. The principles of electricity, magnetism, mechanics, steam, photography, &c., have been discovered, and the appliances which have rendered them serviceable to mankind have been invented. The result is, that railroads are constructed upon which locomotives run screaming past horse-drawn barges; steam, not only prints, but scatters the world's news of the morning over the whole length and breadth of the land—steam vessels majestically traverse our ocean against wind, weather, and tide—and magnetism enables the mariner to steer with the greatest certainty through dreary days and dark nights towards his destined harbour; the electric telegraph carries our thoughts to distant lands with the rapidity of lightning; the sunbeams' chemical properties are ascertained, and the photographer, "holding his mirror to Nature," captures and carries away the truthful reflection; besides myriads of labour-saving machines for forming silk, cotton, flax, wool, clay, and the various metals into articles of utility. All—all these are brought into existence by inventors! Moreover, every article on our breakfast table, and everything in our houses, are the result of invention. Take away from us everything that has been invented, and we shall find ourselves naked, houseless, and more helpless than the brutes in the wilderness! And yet, no class of men in this country have been so unjustly treated as poor inventors! No country has such unjust Patent Laws as those of Great Britain!

In the United States of America the Government patent fees amount to only thirty-five dollars, viz., £7, for a patent for seventeen years, while in this country the Government patent fees amount to £175 for a patent for only fourteen years!

Besides, in this country, an inventor is not allowed to do the business of patenting his invention by correspondence. No! He must apply personally to the Commissioner of Patents at his office in London, or employ an agent to do so—and this incurs extra expense—seldom less, and often more than £25. Thus a patent for the United Kingdom generally costs the patentee £200, while the Government of the United States of America permits an inventor—wherever he may reside—to do the whole of the business by correspondence direct with the Commissioner of Patents at Washington, and £7 clears all expenses for an American patent for 17 years! This is handicapping with a vengeance! The idea of putting 200lbs. weight on an Englishman, by his own Government too, in the competitive race with an American who has only 7 lbs. weight to carry,

As the United States Patent Laws afford such great facilities and advantages to inventors, and the obstructions and disadvantages connected with our Patent Laws are so great, amounting to a prohibition to most working men, is it any wonder that our best inventive workmen leave this country and take their inventions to the United States?

As a natural consequence, Englishmen patent their inventions abroad, and they come here as foreign inventions, which supersede our productions, and thus we are deprived of the trade which we might have retained and obtained if justice had been done here to inventors. The folly of our legislators in this matter is equal to that of "killing the goose that layed the golden eggs!"

There is another injustice which affects poor inventors more than the high rate of patent fees. If a patentee has not sufficient money required to pay for the defence of his patent rights, our Patent Laws give him no protection whatever. A rich man can pay for the protection of his patent rights, and it is rich men only who are benefited by the high rate of patent fees; but they are seldom found to be inventors; they get possession of inventions for a trifle, often for nothing, and the poor inventor is lost sight of. There are a few noble exceptions where rich men have done justice to poor inventors, but such cases are very, very rare indeed.

As an agent's charge for obtaining an American patent is generally about £30, I wrote direct to the Commissioner of Patents, at the Office for Patents, Washington, D. C., stating that I had several inventions which I desired to patent in the United States, and would like to know the rules of the office, so that I could apply in the proper form, and the Commissioner promptly sent me a copy of the Patent Law, and also a copy of the Rules of the Patent Office, free of charge. Since this I have patented three inventions there with far less trouble than with an agent, and in one case the Commissioner suggested that a wider claim would be permitted, which he wrote out in full, and which I adopted. Would our Commissioner have done this? Certainly not. There, the Patent Office employs a qualified staff of examiners, who will not allow a patent for what has been done previously. But here, the inventor has to examine for himself, and this is no small matter for a working man. In some cases thousands of specifications require to be examined; but whether the invention be new or old, the Commissioner of Patents takes his fees, regardless of consequences.

A national or an individual wrong necessarily brings its punishment, and right its reward. England is now mostly suffering from the wrongs inflicted upon those who produce the wealth of the nation, and unless justice is done to the people, "Ichabod" will be inscribed upon the portals of the kingdom, for our glory as a nation will assuredly depart. Other countries, peopled with our own blood, will carry away the palm which we so long have borne, and Great Britain will sink in the scale of nations.

If England would avert the coming destruction of trade and commerce, she should at once remove the impediments which she has placed against the progress of inventive genius, and grant patents for such fees as would pay for office expenses only. She does herself wrong by taxing inventions. She has no right to derive a revenue from those who produce the wealth of the nation. Good as the American Patent Laws are, England, to save herself, should be a match for America, and grant a patent for £5 for 20 years, and the inventor or patentee should be compelled to grant licenses to all who can prove their ability to work the patent efficiently.

GAS FOR LIGHT AND HEATING.

At a conference of gas managers held at Birmingham last week Dr. C. W. Siemens read a paper on "Gas Supply, both for Heating and Illuminating Purposes." The question, he said, may be asked whether a demand would be likely to arise for heating gas similar in amount to that for illuminating gas. I am of opinion that, although the present amount of gas supplied for illuminating purposes exceeds that for heating, the diminution in price for the latter would very soon indeed reverse these proportions. Already gas is used in rapidly-increasing quantities for kitcheners, for the working of gas engines, and for firegrates. As regards the latter

application, I may here mention that an arrangement for using gas and coke jointly in an open fireplace combined with a simple contrivance for effecting the combustion of the gas by heated air has found favour with many of the leading grate builders and with the public. As regards the use of illuminating gas, I have one more suggestion to make, which I feel confident will be viewed by you with interest. The illuminating effect produced in a gas flame depends partly upon the amount of carbon developed in the solid condition in the body of the flame and partly upon the temperature to which these particles are heated in the act of combustion. Having shown how by separation a gas of greater luminosity may be supplied, it remains to be seen how the temperature of combustion may be raised. This may be effected by certain mechanical arrangements, whereby a portion of the waste heat produced by the flame itself is rendered available to heat the gas and air sustaining the combustion of the flame—say to 600 degrees Fahr., or even beyond this point. The arrangement I have adopted for this purpose is a burner of the ordinary Argand type, mounted in a small cylindrical chamber of sheet copper connected with a vertical rod of copper, projecting upwards through the centre of the burner, and terminating in a cup-like extension at a point about four inches above the gas orifices, or on a level with the top of the flame. A small mass of fireclay fills the cup, projecting upwards from it in a rounded and pointed form. The copper vessel surrounding the burner is contracted at the upper extremity with a view of directing a current of air against the gas jets on the burner, and on its circumference it is perforated for the admission of atmospheric air. The bottom surface is formed of a perforated disc covered with wire gauze, and wire gauze also surrounds the circumference of the perforated cylinder. The external air is heated in passing through these "regenerative" surfaces, and the flame is thus fed with air heated to the point above indicated, which by more elaborate arrangements might be raised to a still higher degree. The ball of fireclay in the centre of the burner, which is heated to redness, serves the useful purpose of completing the combustion of the gas, and thus diminishes the liability to blackening of the ceiling. The arrangement for transferring the heat from the tip of the flame to the air supporting its combustion was applicable also to an open bat's-wing burner, but I have not yet had time to ascertain accurately the amount of increase of luminosity that may be realised with this class of burner. From a purely theoretical point of view it can be shown that of the caloric energy developed in the combustion of gas a proportion (probably not exceeding 1 per cent.) is really utilised in the production of luminous rays; and that even in the electric light nine-tenths of the energy set up in the arc is dispersed in the form of heat, and one-tenth only is utilised in the form of luminous rays. It would lead us too far here to go into the particulars of these calculations, but it is important to call attention to them in order to show the large margin still before us for practical improvements. I may here mention that another solution of the problem of heating the incoming air by the waste heat of the products of combustion has lately been brought under public notice by my brother, Frederick Siemens, which differs essentially from the plan I have suggested, inasmuch as he draws the flame downwards through heating apparatus and thence into a chimney. In practice both these methods of intensifying a gas flame will probably find independent application, according to circumstances. By the combined employment of the process for separating the illuminating from the heating gas with the arrangements for intensifying the luminosity of the gas flame, the total luminous effect produced by a given consumption of coal gas may, according to the figures given, be increased threefold, thus showing that the deleterious effects now appertaining to gas illumination are not inseparable from its use. My principal object in preparing this communication has been to call your attention generally to the important question of an improved gas illumination, and more particularly to the subject of a separate supply for heating gas, which, if carried into effect, would lead, I am convinced, to beneficial results, the importance of which both to gas companies and to the public it would be difficult to over estimate.

THE RESULTS OF PROTECTION IN FRANCE.

That France does not altogether succeed in extending her export trade by means of a system of protection is shown very conclusively by the following figures and accompanying comment extracted from the *Statist*:

Exports of Textile Manufactures from France to all Countries in the Years 1872-1878.

(From the Statistical Abstract for Foreign Countries).

	Cotton Manufactures.	Woollen Manufactures.	Silk Manufactures.	Total.
1872	£2,758,000	£4,083,000	£17,512,000	£24,058,000
1873	3,084,000	3,460,000	19,144,000	26,692,000
1874	2,212,000	4,168,000	16,648,000	23,728,000
1875	3,260,000	3,364,000	15,068,000	21,692,000
1876	2,644,000	2,992,000	11,836,000	17,472,000
1877	2,488,000	3,084,000	10,368,000	15,940,000
1878	2,260,000	3,588,000	10,316,000	16,164,000

"These figures show conclusively that the French exports of textile manufactures of late years to all parts of the world have been diminishing, the diminution in the exports of silk manufactures being especially remarkable. No doubt a part of this diminution is apparent only, being the result of the fall of price which affected our own exports so greatly in the same years; but we believe that a considerable part of the decrease is real, especially in the case of silk manufactures, the Protectionist measures of France having really been injurious to their export trade, by interfering with the proper supply of the raw material. We cannot give the exact figures without reference to the detailed French statistics, but this diminution of their exports of textile manufactures to all the world corresponds with the diminution to the United Kingdom alone. England, in fact, being the chief customer of France, it would be surprising if there was a general diminution of French trade without any diminution in the trade to the United Kingdom."

THE CONCORDIA SOCIETY.

We extract the following account of the formation of the above society from the "die Deutsche Nämaschine."

The provisions have become a fact, the persons interested in the sewing machine industry have already united themselves into a society, established at Leipsig, on the initiative of Mr. Jos. Wertheim, at Frankfort-on-the-Main, who characterised it justly as an untenable and insupportable situation, that the German industrials of this branch did not only march separately, but also separately combat the great American antagonists. It was very natural that in this manner they could but succumb, as, what is generally known, the American companies have large reclaim funds at their disposal.

Besides the president, Mr. Jos. Wertheim, Messrs. Glasz Naumann, Dir. Riese and Ruh have been chosen to form the directors.

The statutes have been redacted as follows:—

1. The Society Concordia is constituted with the end to make more generally known in Germany itself the importance of the sewing machine manufacture.

2. Everyone can be a member who furnishes in Germany sewing machines, parts of them, or machines for their construction; as also they who only furnish the rough materials for them; also they who sell German sewing machines, or parts of them, who inscribe their firm at the president's, and who engage themselves to promote the ends of the society by regular contributions.

The minimum contribution is fixed at 50 marks. Contributions of 100 to 500 marks give right to a vote; in case of higher contributions each 500 marks give a vote. Members who contribute less than 100 marks can unite themselves to the corresponding number of a collective vote.

Greater contributions are levied, according to self-valuation, and provisionally a normal sum is fixed of 20 pf. per complete machine or its value, according to the rate of the production during the former year.

Manufacturers of cheap hand machines and heads valuate themselves at the normal value of 15 — 10 till 5 Pf. a-piece, according to the rate of the retail price; manufacturers of parts of machines valuate themselves at the same rate. The direction fixes the amount of the contribution in concordance with everyone who wishes to be inscribed as a member.

Only in case of particularly valuable reasons the direction has the right to refuse the entrance of a member, or to reject a member. In such cases everyone has a right to call on the opinion of the first general assembly.

3. The direction consists of a president and four auditors, chosen from the number of the voting members. The direction has the right to co-optation.

4. The direction convokes every year the general assembly, in which the direction is chosen by secret voting by absolute majority of voices.

5. The general assembly must be communicated to the members five weeks beforehand; propositions must be forwarded to them eight days before in print. Propositions of the members must be made known to the direction three weeks before the general assembly.

6. On the demand of at least ten voting members the direction must convoke an extraordinary general assembly at latest within two months, yet not before three months have elapsed since the last general assembly.

To the demand for the convocation of an extraordinary general assembly must be joined the propositions to be brought into discussion.

7. The general assembly decides with the plurality of the voices of the present members or of those represented by authorisation.

The domicilium of the society is the domicilium of the president. Correspondencies for the society to address:

CONCORDIA

zu Händen des Herrn:... (*Einstweiligen Vorsitzenden*).

9. The direction defrays the expenses of the direction out of the funds of the society.

10. The direction is obliged to communicate to the members every three months an imprinted state of the cash.

11. The yearly contributions to the cash of the society are communicated by the members per writ of personally; these communications are obligatory; the contributions are perceived by the president according to necessity; yet never more than a third part of the fixed sum may be perceived within two months.

12. Every member has a right to as much copies as he wishes from the imprintings of the society at the original price and à contant for particular ends, and may require additions es: firm *X*.

So the sewing machine industry in Germany has found a mutual point of support, and will no longer have to blush in the presence of other lesser or greater industries, which, without being so much oppressed by foreign concurrence, have founded long since societies for the protection of their mutual interests. The great necessity of such a society for the interested parties may be deducted from the fact that the thirty-one present immediately inscribed themselves as members. Till yet the society counts thirty-eight members, among which the greatest and most influensive firms.

In order to engage those firms and the great number of dealers who have not as yet declared themselves, the direction has issued the following circular to all the interested parties.

The Concordia, a society of all who interest themselves for the German Sewing Machine branch, was constituted the 2nd May a. c. at Leipzig. All those who were present at the meeting have given proof of their adherence by becoming members of it.

The army has thus been levied, with which the contest is to be fought out against American humbug and unworthy concurrence. Our undertaking is not only a legal one, it is a social, a national too. The most important moral factors are on our side, and give a strong, unassailable basis to our operations.

Besides this, the material force in our service may be called from the beginning very respectful. Whether it will be sufficient, who shall say it-our enemies belong to the capitalists of the first rank; from this, however, we feel sure, that we will be superior in number if all the German interested parties unite themselves under one banner.

Prospects are favourable to us as never before. You will be aware that in the last two years our efforts, with but very decent means, have been crowned with success: one article alone, "die Deutsche Nähmaschine" in one of the great German journals, has brilliantly put to light the force of justice and truth. This article produced a sensation among the public as, according to the redaction of this journal, no industrial article had still yet ever produced.

The public interest is duly awakened. We would do a wrong, nay, a foolish act, if we suffered it to go to sleep again. Things are in motion; let us employ our utmost forces that no stagnation takes place.

It will be our first and chief duty to interest the German press in its most worthy and respectful representatives in our behalf. And the Germau press will not fail to show itself really German for a German branch of trade, when it will be thoroughly convinced of the high importance of this branch. Furthermore, we will disperse millions of circulars among the masses, that the man of the people may be sure no longer to be cheated in getting an inferior American machine instead of a superior German one.

As far as the tasteless, gaudy-coloured American placards have penetrated into the most insignificant country inns, our articles and circulars must be spread. We will oppose worthy and motivated declarations against humbug and worthlessness. The people will, and must come on our side, it will learn to comprehend that it is in general equally irrational, to spend its money in foreign countries for machines, to be got in the own country from better construction and at a cheaper rate, as it would be irrational in a peasant to buy, elsewhere the productions, which he can have better and cheaper from his own fields.

It is, therefore, in your own interest when we pray you to hold our side. That no one say: "It will as well go without me." No, it will not go without you, or at least it will not so as it would with your assistance. Every manufacturer who does not co-operate with us weakens our columns; every trader or dealer who does not appear in our ranks diminishes our forces.

True, we are competitors amongst ourselves, that is in a certain degree natural antagonists, but let our jealousy in the market and our competition be ever so great, the Americans are our natural, our common foes, at least they ought to be, and must be, if we will get rid of the foreign intruders. We ought to stand shoulder to shoulder, as all the German tribes for ten years when foreign insolence and disdain were to be punished.

No one presume he may, without contributing, reap the fruits of others exertions—certainly it is not without the reach of possibility that the Concordia insures the results of its troubles and cares to its members alone.

Besides the members, whether dealers or manufacturers, would be perfectly right in turning their backs to all such appertaining to the branch, who had deserted the ranks where it was their duty to defend the highest interest of the trade in German sewing machines.

Nor may the dealer remain inactive and leave the manufacturer to the struggle. Do not the dealers form the greater part of those interested in the strife, and what would be an army without troops of line? They form the real great background, and do indeed give a national relief to the movement.

That nobody think that a little pecuniary sacrifice for the propagation of our ideas is to be put down as a lost post, because it does not bring in a sensible profit, a profit to be felt with the hands or to be counted. Just these posts are often the most profitable. Were it not chiefly our antagonists, the Americans, who have made us sensible of the force of the imprinted word?

They propagated a prejudice, whilst we have the moral and the national interest on our side, which they do not have, would it not in this case be questionable on whose side victory is to declare itself? Confidence rests on reality, and solidity and confidence is the surest pledge, the most solid basis for every commercial pursuit.

We do pray you not to hesitate, and to range yourselves on our side. Wars must be quickly and energetically fought out. In the first place, we want a good stronghold. Once in a fortified position, it will be an easy matter to protect and defend it with little expense and little means.

Thus it is evident the German sewing machine industry has at length got the alarm. We sincerely congratulate it with this revivement, the struggle had since long begun in several of the most honourable manufacturers, and it would be strange indeed if the German industry, which has on so many occasions beaten that of America, would not end in becoming wholly master of the interior market.

THE ART OF ECONOMY.

The art of economy consists chiefly in knowing how to draw the line between thrift and niggardliness, for there is a point beyond which that safeguard of all business enterprises, economy, becomes a detriment and a drawback. Economy, in the proper sense of the word, means a frugal and judicious use of money, and should by no means be confounded with parsimony, which implies an improper saving of expense, although there are many in the sewing trades, in various capacities, who do not appear to know the difference.

To exercise judicious economy on a salary account requires the nicest judgment, and it is in this department that economists are apt to try to effect the most saving. Compensation should be graded in proportion to the value of the work performed. Care should be taken that the just and reasonable expectations of employés are complied with—which will create contentment, and contented workers always exert themselves to perform better work than if they are labouring under the conviction that their services are underpaid. To pay extravagant salaries, on the other hand, to privileged persons, who neither do enough work, nor work of sufficient importance to earn them, is more egregious folly than to economise too closely. Every man who draws money out of a business, as an employé on salary, should earn it to the last sixpence; if he does not, he is merely a pensioner upon the business and a dead weight upon its progress. The surest way to economise upon a salary account is to pay all equitably, even liberally, and to make them *earn their money*.

To try to economise in the factory at the expense of the quality of material is so absurd a species of saving that it would be a misnomer to style it economy at all. What "economy" is there in using a cheap quality of metal which makes such poor castings that the parts never fit together when brought to the adjusting room, and have to be all worked over before they can be made to "do?" ("do" the unfortunate buyer.) Like bad pennies, machines made in this way eventually find their way back upon the manufacturer's hands, after having made a host of warm friends wherever they have been seen and tested, and gained a brilliant reputation for the company whose imprint they bear. To dress machines up in pine woodwork that has been gone over with a jackplane and a chisel, with nice, wide, roomy joints, and glossed over with a little inexpensive varnish, and to touch up the non-working parts with a little cheap japan that is "warranted not to crack," are points which should not be overlooked by a factory superintendent who desires to make a reputation as a strict economist, and who thinks he can keep better in the good graces of his employers by clinging tenaciously to the doctrine of "economy first, quality afterwards," than he can by adding a trifle to his monthly bills and trusting to the superiority of the machines he turns out to more than make up the difference in the open market by virtue of their superiority. The secret of economy in the factories is to buy good material for cash and at the lowest market rates, to employ good workmen, who will spoil as little work as possible, and never to allow machines to be patched up. The factory superintendent who adheres to these three cardinal principles, takes care to have the factory fitted with the latest labour-saving machinery, and gets the utmost possible good work out of the fewest possible good workmen, can run a factory economically and successfully.

Those who pride themselves on their economy should not blindly infer that "a penny saved is a penny gained" in all instances. Let them first make sure that the penny they believe to have been "gained" has not been saved at the sacrifice of a pennysworth somewhere. To call a saving made in this way a "gain" would be to imitate very closely the logic of the Irishman, whose bed-quilt was too short to cover his feet, so he proposed to eke it out by stitching on a piece cut from the top! If a saving can be made without any corresponding loss it is true economy. If in a set of a hundred workmen one can be discharged and his work distributed among the remaining ninety-nine without perceptible decrease in the amount of work done or the efficiency with which it has been executed, a genuine and wholesome economy has been exercised, and there is an absolute gain. If ninety-nine dollars can be made to have the same purchasing power that a hundred had before, the dollar saved is as good as a dollar earned. A close study of economy of this description is worthy the attention of company officers. They will acknowledge that they practice economy, but they have not all got the ingennousness to confess that the more they economise the less they seem to make. Why? Because their so-called economies are backed somewhere by a corresponding loss.—*Sewing Machine News.*

BUTTON-HOLE ATTACHMENT FOR SEWING MACHINES.

The Button-hole Attachment, exhibited at the late Domestic Exhibition, London, by the inventors, Messrs. Hitchman and Felton, was patented (2471) in December, 1878. Since that time many of the Attachments have been made and put into practical use by large manufacturers of shirts, collars, &c., who testify as to the value of the machine, both as regards the quality and quantity of the work turned out, and as to the great saving of time and labour effected. The patentees apply their invention to all descriptions of sewing machines—that we have seen is fitted to a Thomas, which is, as is well-known, the favourite machine of the collar and shirt manufacturer. The Attachment will, however, work equally well on cloth as on calico or linen, and is therefore suited also for costume and mantle manufacturers and makers of ready-made clothing. For leather work the machine makes a beautiful stitch, and as it makes the button-hole complete, from beginning to finish, automatically, and about ten times as fast as any machine we have seen, it will without doubt be in great demand by boot and shoe manufacturers.

The invention consists in the construction of an improved button-hole attachment applicable to any ordinary sewing machine, the object of the improvements being simplicity of construction and operation and automatic action, the "barring" of the button-hole being effected in a better manner than hitherto, and without it being necessary to shift the material or any part of the machine. Another advantage of the improved attachment is, that it can be easily and quickly removed from or applied to a sewing machine, thus enabling the machine to be employed either for ordinary sewing purposes or for button-hole work. In carrying out the invention, a metal frame is employed provided with suitable brackets and screws for allowing it to be attached to the bed of a sewing machine. In the back part of this frame works a driving shaft driven by bevil gearing from the main shaft of the sewing machine. The free end of the driving shaft is provided with or formed into a double throw cam, which gives motion to a lever operating a pawl-disc motion communicating an intermittent motion to a barrel cam shaft, the cam of which gives a to-and-fro motion to a lever which communicates a longitudinal motion to a sliding plate carrying the clamping plate; the said barrel cam shaft also carries a lifting cam for raising a lever, which lever, in its turn, lifts a spring bolt working in a stalk slide driven by a cam on the driving shaft. The said spring bolt moves in a slot in the clamping plate and is shouldered on both sides, so as to give a to-and-fro motion to the clamping plate to form the stitches on each edge of the button-hole, the bar of the

button-hole being formed by the bolt rising or falling, as the case may be, so as to cause the clamping plate to travel through a greater distance than is required for the single stitch for the edges of the button-hole. The cam is provided with a "dwell" at each end, allowing the sliding plate to rest while the bar is being formed, and prior to the return motion to form the opposite edge of the button-hole. The length of the button-hole is regulated by means of an adjusting screw or other suitable arrangement, which increases or diminishes the stroke of the lever operating the sliding plate. A fine or coarse stitch is produced by means of a suitable stitch regulator. The cloth or material to be operated upon is held on the clamping plate by any suitable known arrangement.

We understand that the manufacturers purpose to introduce these attachments to the trade generally, and if they do so at a reasonable price, we have no doubt, but that very large results in the way of sales will follow.

IMPROVEMENTS IN SPRINGS FOR WASHING, WRINGING AND MANGLING MACHINES.

Mr. Henry Leach Wilson and Mr. John Clegg, of Atlas Works, Clayton-le-Moors, Lancashire, have obtained Letters Patent for the above improvements. This invention relates to improvements in springs constructed in such manner as to require less metal and to distribute the strain on the top rail. Springs constructed according to this invention consist of two or more layers of the length of the completed spring; these are so bent as to form two or double bows, upon each of which are shorter layers and bearing pieces, which, when the spring is in use, bear against the under side of the top cross rail of the machine. The spindle of the adjusting screw is attached to the spring at a point between the two bows, and in applying the spring the spindle is by screw and pressure wheel raised in contradistinction to being screwed down; the raising of spindle, as referred to, puts the pressure upon the necks of the rollers as required,

"AT HOME."

Some years ago all the varied uses of the words "at home" were intended to convey an idea of simplicity; of the absence of ceremonial restraints; of all that was easy and natural in our daily life. The adjective "homely" conveyed the idea of something rather rustic and devoid of social brilliancy—it still does so. Why, then, do we find the expression "at home" applied to the largest and most brilliant receptions? Who is "at home" on these occasions? Not the hostess, unless we narrow the meaning of the words down to the designation of the four walls within which she habitually sleeps and takes her meals. Neither her dress nor her demeanour convey the smallest impression of her being "at home," as we have been used to understand the words. Not the guests, whose presence, while supposed to constitute, actually destroys, the meaning of the term. "Make yourself at home" was a phrase often employed by old-fashioned hosts to their few but welcome visitors. Nobody goes through such a shallow pretence as this at a modern "at home." You are not expected and you are not wanted to do so. You are received in the hall by a retainer, who may or may not be "at home," but who very likely applies that sacred term to a greengrocer's shop round the corner. You mount slowly a crowded staircase, and you make your way at last to the drawing-rooms. Here you find your hostess (if such a term may be used with reference to the mistress of the house on such occasions) illustrating how much "at home" she feels by standing at the door, either fatiguing herself with endeavouring to identify the different people who squeeze slowly past, or abandoning the attempt altogether, and contenting herself with giving the same mechanical greeting to each. When you have achieved an entrance, the employment of your evening is problematical. Sometimes people give these entertainments that their friends may dance, in which case it is difficult to see why they should not be called balls. Sometimes conversation is the only amusement offered, and in that case a people to whom such gatherings are the most frequent form of what we call "society" has supplied us with the word *conversazione*. A very frequent, perhaps the most frequent, amusement offered to guests on these occasions is what is called "a little music." Then, indeed, the misnomer is more exasperating than at any other time. A little music, when you are really "at home," usually means one of three things—a gentle slumber, an agreeable conversation, or a quiet hour with a book or newspaper. To either of these, music is a pleasant and unobtrusive accompaniment; and a performer "at home," who probably plays as much for her own amusement as for yours, is quite content with that view of it, and is more than satisfied, if such an appreciative criticism as a condescending—"That's rather a pretty thing; what do you call it?" crowns her efforts. But a musical "at home," in the socially conventional acceptance of the term! To begin with, these terrible entertainments are generally held in the afternoon, and gentlemen, to carry on the fiction of a casual call, are embarrassed with their hats during the whole time of their stay; and ladies sit in a crowded drawing-room for a couple of hours on a June afternoon in their out-of-door toilettes. The music, at the present day, is often very good, and such as one would enjoy thoroughly with suitable surroundings; but this is by no means invariably the case, although you must behave as if it were; you must not talk, though your neighbour be charming, and the music detestable; if you doze—which, in the heat, you are likely to feel tempted to do when the music is soothing—you are a Goth and a Vandal; and you cannot read, because the only available literature is probably your programme. The mistress of the house, who has organised this concert gratis for the amusement of her friends, knows that they will be more critical than if they had honestly paid for their tickets; for in that case people like to convince themselves that their expenditure has not been a mistake; she knows the performers are being annoyed by people who come late and people who go early, but she has not called it a private concert; she prefers the vague title of a musical "at home," and, consequently, must retain the outward appearance of a gracious hostess to both. The same principle underlies all the varied forms of entertainment to which the same inappropriate name is given. Sometimes you do one thing, and sometimes another; but whatever you do you never are, and you are never expected to be, for a single moment "at home." It is probable that your card of invitation has not contained the shadow of any pretence that your society will give pleasure to the persons who seek it, and who content themselves by baldly stating that they will be "at home" on such and such a day and hour. Let it be understood that we are not objecting to these entertainments themselves, but to the name by which they are called.—*Glole.*

A CONFESSION.

I saw your trailing drapery,
As you gazed along the grapery.
Do you remember what you said?
And your cheeks—how very red!
For you said—ah! Yes you did—
You said "I love"—confess the fib—
(Blessings on your little head;)
"I love sweet grapes" is what you said.

UNDER the influence of a spring evening, moonshine, and other romantic surroundings, a boating man was led on to ask a pretty, but somewhat strong-minded young lady, to "row in the same boat with him for life." "On one condition," she answered, promptly, "and that is—I steer."

ARABELLA (on her toes in a chair, clutching convulsively at her skirts)—"Oh, Bridget! A mouse! A mouse! Come and catch it, quick!" Bridget—"Shure, mum, there's no hurry. If this one gets away I can catch plenty more for ye, mum."

"WELL, what do you want here?" remarked Mr. Smith, as he sat up in bed and addressed a professional burglar, who stood in front of the bureau. "I want money and bonds," hissed the burglar through his clenched teeth, "and quick about it, too." "My friend," retorted Smith, "I have been looking for those things for the last twenty years without success; but go on with your burglary, I'm sleepy."

LIQUIDATIONS BY ARRANGEMENT.

Elkington, William, Monmore-green and Upper Villiers-street, Blakenhall, Wolverhampton, manufacturer of washers. May 24.
Hammond, Michael Sanderson, Hamlet-terrace, Norwood, ironmonger. May 25.
Hardaker, William, Livingetone-street, Great Horton, and Portland-street, Manchester-road, Bradford, Jacquard machine maker. May 26.
Hodges, Henry Samuel, Lower Union-street, Bristol, furniture dealer. June 1.
Worsley, Walter, Hockliffe-street, Leighton Buzzard, Beds, ironmonger. June 1.
Firth, James, Sowerby Bridge, Halifax, ironmonger. June 8.
Webb, Walter, Well-street, South Hackney, ironmonger. June 9.
Hall, John Samuel, Bath-street, City-road, furnishing ironmonger and cutler. June 25.
Wilkine, Benjamin, Oxton-road, Birkenhead, ironmonger. June 23.

BILLS OF SALE.

Barnes, Stephen Robert, 157, High-street, Battersea, foreman and sewing machine agent; £16, &c. In favour of John Fooks. Filed May 27.
Baverstock, George, Salisbury-street, Blandford, Dorset, ironmonger; £70. In favour of Solomon Blaiberg. Filed May 23.
Buncombe, John Clarke, Bruton, Somerset, ironmonger; £780 11s. 11d. In favour of Asenath Buncombe. Filed May 23.
Hasjelhurst, Joseph, 88, Westfield-street, St. Helens, Lanc.; £40, &c. In favour of City and County Finance Co. Filed May 25.
Hodges, Henry Samuel, 51, Lower Union-street, Bristol, furniture dealer; £67, &c. In favour of Walter J. Nicholas. Filed May 25.
Mullord, George, 5, Albion-terrace, Churchfield-road, Acton, ironmonger and china dealer; £65, &c. In favour of Imperial Deposit Bank. Filed May 25.
Hill, George Coulson, Saint Saviourgate, York, ironmonger; £50, &c. In favour of Wm. Oxlade. Filed May 31.
Hunter, George, 29, St. George's-hill, Everton, Liverpool, wholesale ironmonger In favour of Josiah Parkes & Sons. Filed June 1.
Jordan, Josephus Herbert, Eccleston House, Prescott-road, and 19, Church-street, St. Helens, Lancashire, ironmonger; £500. In favour of Henry Hodgkins. Filed May 30.
Palmer, Arthur, 8, Framland-street, Leicester, sewing machinist and gasfitter; £16, &c. In favour of Solomon Barnett. Filed May 30.
Portsmouth, Albert Basingstoke, Hants, ironmonger, £1,008 8s. 8d. In favour of Mary Portsmouth. Filed June 1.
Westley, Horace, 93, Gloucester-road, Brighton, dealer in musical instruments and sewing machines; £20, &c. In favour of Joseph Hall. Filed June 1.
Dix, Joseph, Church-street, High Wycombe, Bucks, ironmonger; £2,252 7s. 4d. Absolute sale. In favour of Fred. T. Westfield and another. Filed June 4.
Foord, James, 276, Portobello-road, Notting-hill, ironmonger; £35, &c. In favour of James Jelley. Filed June 13.
Hays, James Boston, High-street, Cradley Heath, Staffs., and the Horse Fair, Kidderminster, Worcestershire, dealer in washing machines, &c., £260, &c. In favour of Midland Credit Co. Filed June 13.
Sharman, William, 30, Bute-street, Cardiff, ironmonger, &c.; £155, &c. In favour of Esau Field. Filed June 17.
Weighell, James, Northallerton, Yorks., machine maker; £27 10s., &c. In favour of Abraham Levy. Filed June 18.

DISSOLUTIONS OF PARTNERSHIP.

Davis and Marks, 216, Old-street, St. Luke's, furniture manufacturers. May 23.
Jenkins Bros., Winchester-street and Endless-street, Salisbury, furnishing ironmongers. April 25.
Saul and Hedden, Lymington, ironmongers. April 9. Debts by George Frederick Saul.
Stuchbery and Thompson, Maidenhead, grocers and ironmongers. April 5. Debts by Nathan Curtis Thompson.
Dancy and Marshall, Regent-street, New Swindon, ironmongers and drapers. June 18.

COUNTY COURT JUDGMENTS.

Davies, Joseph, 3, Canning-terrace, Lower Addiscombe-road, Croydon, ironmonger; £12 14s. April 28.
Gray, R. O., Berwick-on-Tweed, Northumberland, ironmonger; £10 15s. 11d. April 29.
Hutt, Henry, 3, Peas-hill, Cambridge, ironmonger; £11 9s. 5d. April 12.
Marson and Buckley, 14, Tabernacle-square, Finsbury, ironmonger; £14 2s. 8d. April 20.
Roberts, Thomas, Dolgelley, Merionethshire, ironmonger; £10 12s. 4d. April 26.
Stacey, George, Frimley, Surrey, machinist; £22 14s. 3d. April 20.
Swain, —, Stanley-street, Liverpool, ironmonger; £16 1s. 2d. April 14.
Webb, Walter, 172, Wells-street, Hackney, ironmonger; £18 8s. 7d. April 22.
Miles, T. W., 7, Mill House, Brentford, ironmonger; £14 7s. 4d. April 28.
Smith, Henry M., St. Ann's Well-road, Nottingham, furniture dealer; £11 0s. 4d. April 28.
Hore, S., Walcot-street, Bath, ironmonger; £12 13s. 7d. May 7.
Cheetham, James, Richmond-road, Liverpool, ironmonger; £15 7s. 6d. May 6.
Pescud, A. W., Henley, Oxon, ironmonger; £12 5s. 8d. May 7.
Vicary, F., 41, Hawkesley-road, Stoke Newington, ironmonger £26 13s. 6d. May 2.

THE HOWE TRICYCLES.

Since noticing these fine machines, various great improvements have been added that tend to make a perfect tricycle. First, the steering gear is much simplified, instead of the usual handle to be turned around in the required direction, wanting great strength of wrist to use it well, the company have adapted a simple handle working like a lever to and fro, which by means of cogs or ratchets move the hinder wheel as required, the handle fixing itself automatically when the hinder or guiding wheel is quite straight. It works easily, everyone who tries it being strong in their praise of it. This will be a great selling point for the Howe tricycle. On either side of the rider, level with his hands, are fixed in a most convenient position upright support handles. The advantages of this arrangement may be felt at once on mounting the machine. Another improvement is that the hubs are widened, giving greater strength to the wheels, but so arranged as not to increase the width of the machine, and, as well as the spokes are nickel plated. The oilers for the hubs are dustproof, a very ingenious contrivance of a spring under a ball pressing against the oil nole of the oiler being used for the purpose on all the bearings of this machine. The Howe Tricycles are supplied either with a saddle or a cushioned seat both mounted on springs, and made adjustable to suit any rider. As we have aforetime stated, the Howe Company's machines are made from the best materials only, from the rubber of the tyres to the smallest nut, so that buyers looking out for really first-class tricycles should see those manufactured by the Howe Company before filling their indents.

W. HOSIER & CO.,

MANUFACTURERS OF

The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.

Also Perambulators with Bicycle Wheels.

Largest Dealers in the World in New and Second-hand Machines.

MIDLAND BICYCLE DEPOT.

SMITHFORD STREET, COVENTRY.

RENNICK, KEMSLEY & CO.,

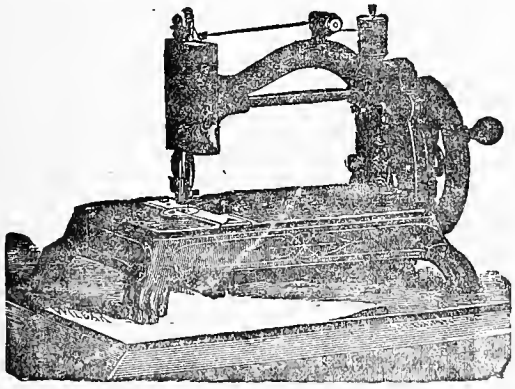
SOLE AGENTS IN EUROPE FOR

Johnson, Clark & Co.,

OF NEW YORK.

THE "HOME SHUTTLE"

Still keeps its place as being the best Hand Lock-Stich Sewing Machine in the world. It is exceedingly simple, never out of order, and always presents a bright and attractive appearance.



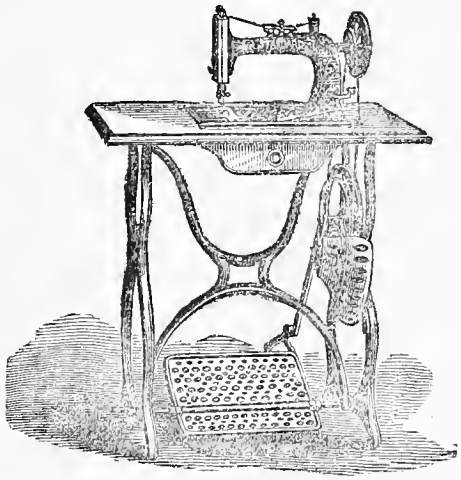
We have added the loose winding wheel and all latest improvements.

THE BEST TREADLE MACHINE IS THE

Light Running "Standard"

For Manufacturing and Family use.

Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.



IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

It is a Model of Strength and Beauty.

The most Elegantly Ornamented Machine in the world. Lasts a lifetime, and NEVER gets OUT of ORDER. EXCELS ALL OTHERS IN THOROUGHNESS OF WORKMANSHIP.

We wish to establish Agencies in all Towns, and will give exclusive territory to first-class houses, and furnish Machines at very low prices.

RENNICK, KEMSLEY & CO.,

(Late Johnson, Clark and Co.),

Finsbury Circus, LONDON, E.C.

By Royal Letters Patent.

THOMAS WARWICK,

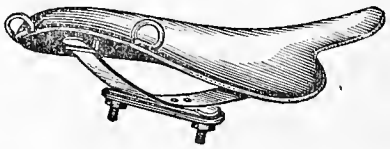
MANUFACTURER OF

BICYCLE MATERIALS

Of every description, Wholesale and for Exportation.

WARWICK'S PATENT POTENTIAL RIMS.

SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

Price List Free on application to the above,

ALMA STREET,

Aston New Town, Birmingham.

WONDERFUL INVENTION IN SEWING MACHINES. —A partner is wanted to introduce a lock-stitch sewing machine, made without spool or shuttle, taking the cotton direct from the reels.—Address, G. Early, Greycourt-place, Westminster.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

ALL English speaking sewing machine manufacturers and dealers had better look out. *La Machine à Coudre*, a journal printed somewhere in the wilds of Holland, partly in French, partly in German, and partly in English, gives in its last issue the alarming intelligence that a new alliance has recently been formed in Germany, having for its object nothing less than the utter annihilation of everybody engaged in the sewing machine trade except its own members. We produce in another column the English (*sic*) version of the manifesta of the Concordia. We have waded very carefully through this choice piece of composition, endeavouring to find out what means the Concordia people intend to adopt for carrying out their programme, and we find that they intend to "oppose worthy and motivated declarations against humbug and worthlessness," and they intend further to "disperse millions of circulars among the masses that the man of the people may be sure no longer to be cheated in getting an inferior American machine instead of a superior German one." They also intend to fight against "American humbug and unworthy concurrence," whatever that may mean. They further assure us the publication of their programme "has brilliantly put to light the force of justice and truth," and "produced such a sensation as no industrial article has still yet ever produced." We should think so. He must have been a very clever fellow who drew up the programme of the Concordia, and another equally clever fellow must have translated it into English. Here, for example, is a sentence enough to

make Lindley Murray's hair stand on end if he were alive to read it. "It is an untenable and unsupportable situation, that the German industrials of this branch did not only march separately, but also separately combat the great American antagonists. It was very natural that in this manner they could but succumb, as what is generally known the American companies have large reclaim funds at their disposal." What we suppose they really mean is that the German manufacturers intend to combine together for the purpose of pushing the trade in machines of their own manufacture; this is all fair enough so long as they are content to sell their goods for what they are. But if English and Ameriean machines are as worthless as the Concordia people pretend, why on earth do they want to imitate them, steal their names of trade reputation in the way they do? If the Concordia will only teach German manufacturers a little common honesty we shall be glad, and, by way of encouragement to all those who feel disposed to join its ranks, we notice that by rule XII "Every member has a right to as much copies as he wishes from the imprintings of the society at the original price, and á contant for particular ends, and may require additionses." We should think after this every reader of our journal will at once subscribe to the Concordia.

A VERY curious and interesting document has recently reached us through the post, emanating from the "County Court of Lancaster, holden at Manchester," in the matter of James Macdonald McKenzie, of 122, Market-street, Manchester, in the County of Lancaster, sewing machine dealer, a bankrupt. This document informs us that a first and final dividend of twopence in the pound has at last been declared in the matter, and that the same can be transmitted, less the cost of remittance, upon the exhibition of all bills of exchange or other negotiable securities held by the creditor, so that if our debt had happened to be say £20, we should be entitled to receive of the estate, after the cost of proving the debt—say 2s. 6d.—and the cost of remitting the money—say 2d. more—exactly eightpence, in the shape of a first and final dividend, or something less than one halfpenny in the pound, and if our debt happened to be less than £20 it would not be worth proving at all, as the cost of proof would be greater than the dividend. Somebody is clearly to blame in a case of this sort. Mr. McKenzie, if we remember rightly, is a sewing machine agent, occupying commanding premises at a very high rental in Manchester. Honest and industrious we believe him to be, but the times were bad, the easy payment system demanded more capital than Mr. McKenzie could command, and, like a good many more, he had to go to the wall. But we believe there was on the whole a good estate, and the question arises—What has become of it? After nearly three years the trustee announces that all he has for the creditors is a beggarly twopence in the pound, and one naturally inquires where the balance has gone. It is just the old story over again. The creditors quarrelled amongst themselves, and the lawyers very kindly stepped in and put the proceeds into their own pockets. This thing is constantly happening, and it is high time that we had such a reform of our Bankruptcy Laws as would render the squandering of estates impossible.

WE have just had submitted to us for inspection a new sewing machine, made by Mr. Early, of Greycourt-place, Westminster. The machine works direct from the reels of cotton, neither shuttle or spool being employed—thus a great saving of time is effected which is always necessarily consumed in filling the shuttle or spool. The machine makes a firm, strong lock-stitch, and travels at the rate of an ordinary lock-stitch machine. The mechanism is very simple, and the inventor informs us that he can make the machine at a very low figure. He is a poor man, and, as will be seen by an advertisement in this journal, desires either a partner or capital.

OUR ILLUSTRATED SUPPLEMENT.

ROTARY SHUTTLE SEWING MACHINE.

The quickest sewing machine extant is the newly-invented Rotary Shuttle Sewing Machine, an illustration of which we give as this month's Supplement. The patentees of this machine, Messrs. Bradbury and Co., Oldham, have just introduced it to the trade, and we think the following extract from the *Oldham Chronicle* may prove interesting to our readers:—

"The marvellous advance which has been made in the application of the sewing machine is one of the surprises of the age. In scarcely any other domain of industry has there been a parallel to such progress, and, we might almost add, to such achievements. One sewing machine will accomplish the work of a score of women with the hand, and do it as well, too, if the best kind of machine is employed. That is the question—if the best kind of machine is employed. People interested in the manufacture of wearing apparel would doubtless be inclined to ask where can the best machine be found. Of course, there is an immense variety of sewing machines before the world, all having their admirers and customers; but, for the specific purpose of giving a good and enduring stitch, together with rapidity of work, there has yet some progress to be made. In order that our readers may fully understand the question which is agitating the sewing machine world, and which must one way or another affect them, we may state that there is what is called the Wilcox and Gibbs' 'Chain-stitch' Machine and the 'Lock-stitch' Machine. The chain-stitch is a mere running stitch, which may be said to simply hold the cloth together. Once the thread is started from the material you can pull it out as easily as you can unravel some of those 'puzzle knots' which amuse the rising generation. Of course, ladies have no high appreciation of garments made in this way, and they naturally call for a more endurable kind of workmanship. The lock-stitch is of a far different character to the chain-stitch. It is even more stable and durable than the stitch done by hand, for this reason—in hand sewing there is no 'lock' on the under side of the cloth like that in the stitch produced by the machine, so that really mechanical sewing is doubly binding and secure. A person cannot pull the thread out at pleasure, because each stitch is securely locked and laced into the material. The superiority of one class of workmanship over the other is, therefore, so obvious that it need scarcely be pointed out. But the difficulty which those ingenious people, the manufacturers of sewing machines, have had before them is to make a lock-stitch machine that will get through, not as much work, for that would be impossible, but nearly as much work as the Wilcox and Gibbs' Chain-stitch machine. As a matter of fact, until within a recent period, when a pateut was taken out by Messrs. Bradbury and Co., sewing machine makers, Wellington Works, Oldham, for a new lock-stitch sewing machine (of which we shall speak hereafter, no lock-stitch sewing machine could run half the number of stitches per minute as the Wilcox and Gibbs' Chain-stitch machine. Nor need this be much marvelled at. The lock-stitch machine has to manipulate two threads, whilst the Wilcox and Gibbs' Chain-stitch Machine finds itself occupied with only one thread. In short, whilst the Wilcox and Gibbs' Chain-stitch Machine has attained the speed of 2,600 stitches per minute, no lock-stitch machine constructed up to the time of Messrs. Bradbury and Company's patent had attained a higher speed than 1,200 stitches per minute. This disparity in the number of stitches —1,400—means, of course, more than double the price of labour to the manufacturer—a consideration which might well make him pause in calculating the cost of production. The next question that will occur to our readers is how has this great

speed been obtained in a lock-stitch sewing machine? Well, the patentees have solved in a most satisfactory manner a problem which has puzzled sewing machine manufacturers on both sides of the Atlantic for many years. They have introduced a rotary shuttle, which easily allows of this great speed, and even higher, for we know that a large manufacturer in Manchester, who has six of these machines at work, has run the machines to the high maximum of 2,100 stitches per minute. The rotary shuttle was attempted some sixteen years ago, but was a pronounced failure. Happily it is now, after much labour, investigation, and pains on the part of the patentees, a great success. The old machines, which have a reciprocating motion, could not be worked at a higher speed than 1,200 stitches per minute without the risk of breaking the machine. This we have from a manufacturer who has both the new and the old machines on his premises. The peculiarity of the rotary shuttle is that it is varying in motion, which is obtained by an ingenious arrangement in the pitman rod. This varying motion is as perfect a piece of clever mechanism as can be conceived, and shows how human skill can reproduce it in mechanical appliances a nicety of arrangement and calculation which may be said to belong exclusively to the human hand directed and controlled by the human understanding. We doubt not but that this invention will lead to a revolution in the lock-stitch sewing machine, and a revolution, too, that will be highly beneficial to the public, for will not they partake of the benefits of cheapened clothing through the agency of this marvellous appliance? On Monday afternoon we had the satisfaction and pleasure of witnessing these machines at work in two establishments in Manchester. In one place three machines had been laid down, and in the other six, all driven by steam power. In one establishment we obtained the opinion of the workman, in the other that of the employer himself, so that we might be doubly satisfied on the point of its capacity and its claims to superiority over the old style of lock-stitch machine. The workman (who told us he had had twenty years' experience in all kinds of sewing machines, and in establishments all over the country) candidly declared that it was by far the "best machine going," and that it must supersede all others. The spontaneous opinion of an intelligent and experienced workman may be accepted as a flattering proof of the excellence of the contrivance, and fully demonstrates that amongst practical people it is accepted as the *desideratum* long looked for—viz., a lock-stitch machine which would approach in speed the Wilcox and Gibbs Chain-stitch Machine. We saw samples of work executed by the machine, and, of course, they left nothing to be desired as to appearance, neatness, and durability. By the indicator the machine was running at the minimum rate of 1,900 stitches per minute. In the next establishment the machine, in full work, was seen to better advantage. It was running at a greater rate of speed, over 2,000 stitches per minute, whereas the master informed us that the greatest speed attainable from the other lock-stitch machines in his establishment was 1,200 stitches per minute; that, in fact, he dare not run them above this speed lest that should break down. In this instance there was the opinion of the proprietor of the establishment—a gentleman who had running some 250 machines, most of them by steam power. In addition to the greater amount of work performed—*nine hundred stitches per minute*—we were informed that the rotary lock-stitch machine was far more durable, that it had been running for twelve weeks, and seemed to be no worse for all this usage. The strain upon a machine running over 2,000 stitches per minute must be very great, and yet the rotary machine—so excellent is the material and workmanship—is speeded to this high pitch, and lasts twice as long as the ordinary machine. In this large establishment the machine was giving every satisfaction, and answered more than expectation."

This machine can be used for sewing all kinds of light leather work, and its marvellous rapidity will prove a boon to manufacturers.

IT is said that there are two kinds of girls—one is the kind men like to flirt with, and the other is the kind men like to marry.

APPARATUS FOR CLEANING AND POLISHING BOOTS AND SHOES.

Mr. Charles Mattison of Hammersmith has obtained provisional protection for improvements in the above. The invention consists in a stand or platform fitted with a hinged last or lasts, which can be adjustable in their sizes, or various sizes can be placed in position. The boot or shoe to be cleaned is placed on this platform with the last inside, and held in position by a cramp or otherwise. By throwing back the last on its hinge the foot with the boot on can be placed on the platform and the cleaning then performed. A lever is arranged swivelling on a centre underneath the platform and furnished with removable curved brushes, the distance between which can be adjusted to suit the size of the boot or shoe to be cleaned. One of these brushes operates on each side of the boot or shoe by having a reciprocating movement (analogous to hand brushing) imparted to it by a pin crank, or other device, from the main shaft. This shaft actuates by mitre, friction wheels, or their equivalent, a rotating brush pivoted on a horizontal axis which cleans the "upper" or front part of the boot or shoe. A standard carrying a driving wheel is fitted to the stand, and this wheel actuates the main shaft by an endless belt or other device, the relative sizes of the pulleys being advantageously 3 to 1. The various brushes can be made removable to allow of the different operations of brushing, blacking, and polishing, or a rotary blacking brush may be used to be held by a handle and operated by a flexible shaft from the main axle so as to be applied to every part of the boot or shoe on the last or stand. To assist in polishing more quickly, the inventor fits a small fan actuated from the main shaft, which can be heated by a small lamp, or otherwise, and furnished with a pipe and mouthpiece, so that warm air can be blown on the boot or shoe after the blacking is put on. This will materially shorten the time of polishing when large numbers of boots have to be polished. The speed of the fan and quantity of air are readily adjustable, and the fan or the sets of brushes are arranged to be thrown in and out of gear as required.

OBITUARY.

We regret to have to announce the death of Mr. John Howard, who has acted for the last twelve years as the agent of the Howe Sewing Machine Co., at Blackburn. Mr. Howard was well known and much respected by all sewing machine dealers in the North of England. He was a most indefatigable man of business, and we should think his loss will be greatly felt by the company. He died on the 6th ult., in the 56th year of his age.

A "Manufacturing Firm" has picked a hole in the postal system, which they have, with pardonable pride, communicated to a daily contemporary. In the course of their business the firm needed to post several thousand samples of an article of their manufacture. The postage on each of these parcels would be twopence in this country, owing to the lack of a parcel-post, but the firm found out that the postage was only ten centimes each when posted in Belgium for delivery here. Naturally they adopted the cheaper course, so that our Post Office delivered for about one-third of a penny—its share of the postage—what they could readily charge a penny for, and far more easily deliver if posted here.

A NEVADA girl's love letter—"Dear Jimmy, it's all up. We ain't going to get married. Ma says you're too rough, and I guess she's right. I'm sorry—but can't you go to Europe and get filed down?"

"LET us play we were married," said little Edith, "and I will bring my dolly, and say: 'See Baby, Papa.'" "Yes," replied Johnny; "and I will say: 'Don't bother me now. I want to look through the paper.'" Children have strange ideas of grown folks' ways; now, don't they?

"The Coventry Triumph" Bicycles & Tricycles.

WARMAN, LAXON, ASLATT & CO.,

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

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THE LARGEST **SEWING** Machine "Belt" Manufacturers.

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SEWING AND MACHINE NEEDLES.

ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,

THE PARK WOOD MILLS CO.,

NEEDLE MANUFACTURERS,

Price Lists Free. 230, BRADFORD STREET, BIRMINGHAM.

"EMPIRE" WASHER.

THE BEST AND CHEAPEST MACHINE FOR FAMILY U E YET OFFERED TO THE PUBLIC.

PRICES.

No. 1.	- - - -	£1 10 0
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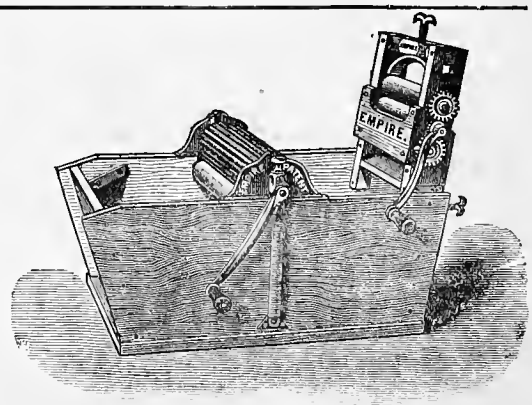
Liberal Discount to the Trade. For Illustrated List apply to Makers,



T. WOLSTENCROFT & Co.,

93, HIGH HOLBORN, LONDON.

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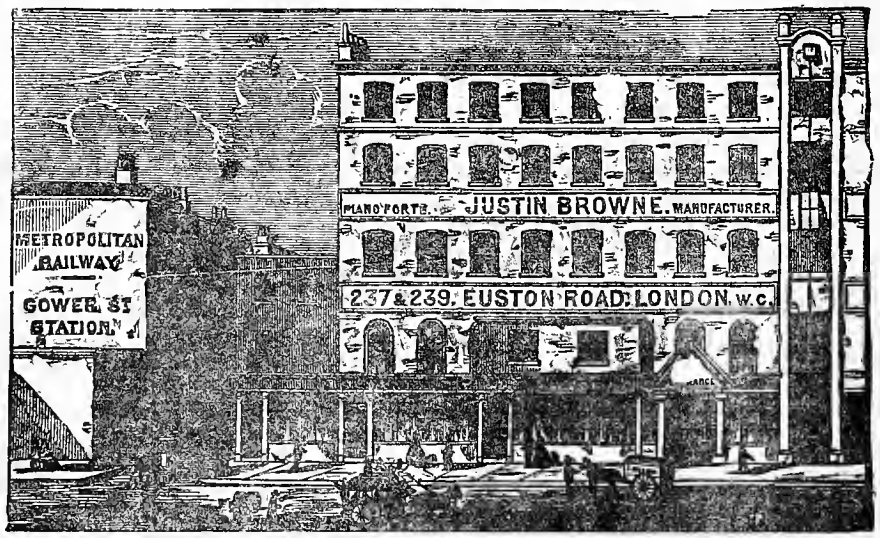
PIANOS FOR TROPICAL CLIMATES

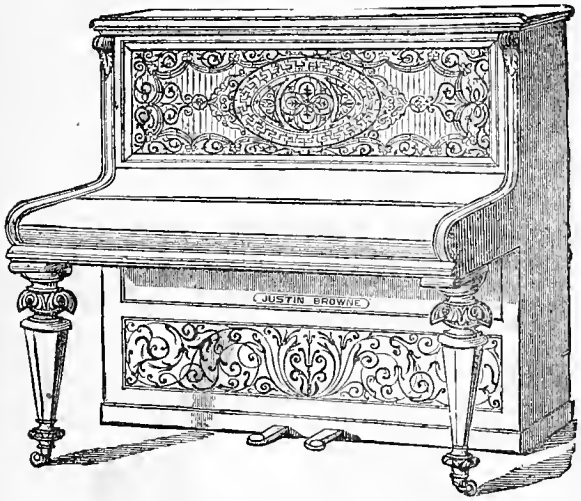


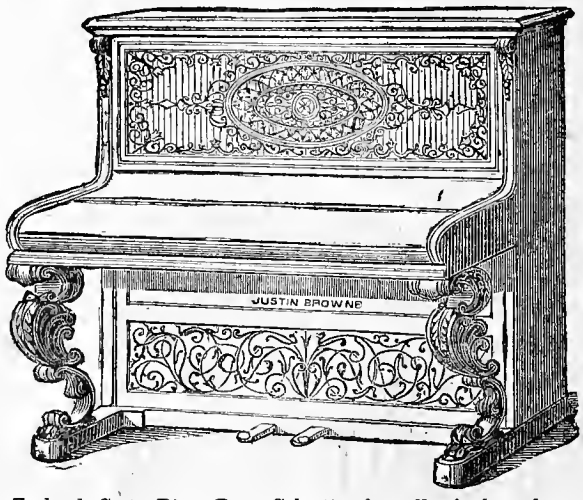
PIANOS WHICH WILL WITHSTAND HEAT OR COLD.

Having had a long practical experience in the Manufacture of the

PIANOFORTE

Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.





JUSTIN BROWNE can refer to customers whom he has supplied in New Zealand, Costa Rica, Peru, Calcutta, &c., all of whom have expressed the greatest satisfaction, and renewed their orders. His prices will be found to be extremely low in proportion to the quality of Pianos, and in comparison with those of other Houses where the same degree of soundness and durability is studied, the reason of the difference being that in their case, selling as they do retail, there are heavy expenses for Show Rooms, Advertising, &c., which as a Wholesale Manufacturer he does not incur; having only Factory expenses, he can offer an equally good instrument at a much lower figure.

CATALOGUES OF DESIGNS AND PRICES SENT FREE.

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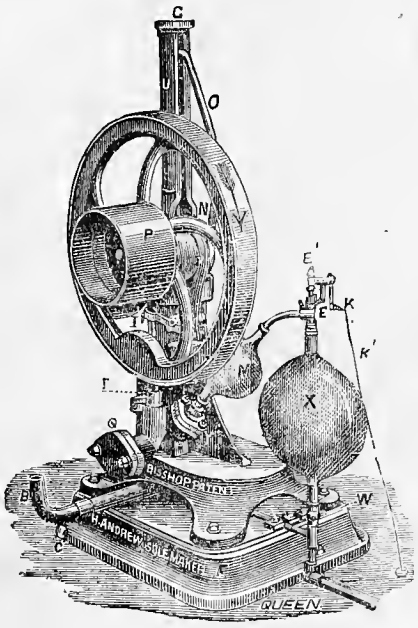
THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0 0
One-and-a-half Man	30 0 0
Two Man	35 0 0
Four Man	50 0 0

NO SEPARATE METER



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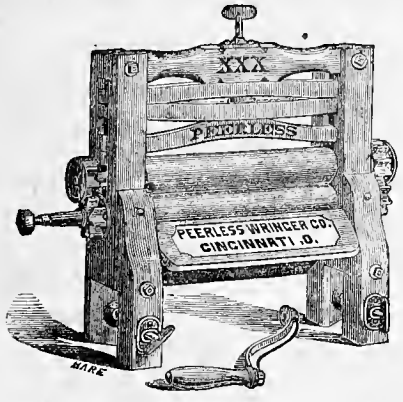
Is the leading Wringer of America.

AWARDED THE FIRST PRIZE *Wherever it has competed.*



Shippers, Merchants, and the Trade PLACED ON THE *MOST FAVOURABLE TERMS.*

The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

Enquiries and Orders to be addressed to the Sole European Representatives,

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AGENTS WANTED.

OILS.

IMPERIAL SEWING MACHINE,
In 1 to 6 oz. Bottles.
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In 1 to 2 oz. Bottles.
BICYCLE LUBRICATING,
In bulk or bottle to order.
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In 4 and 10 oz. Bottles.
MACHINERY OILS,
As consigned to us by the drum or barrel.

SEWING MACHINE TRADE SUPPLIES—
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DOMESTIC MACHINERY—
In all its branches.
SOLE AGENTS for the HAMILTON MANUFACTURING Co. Manufacturers of the "WALKER WASHER" and DOMINION WRINGER.
IMPORTERS of AMERICAN KNITTING MACHINES, NOVELTIES, and HARDWARE.
SOLE AGENTS for the BICKFORD KNITTING MACHINE Co.

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WASHING-DAY REFORM

HARPER TWELVETREES'
RENOWNED "VILLA"
WASHING MACHINE
£2 15s., OR WITH
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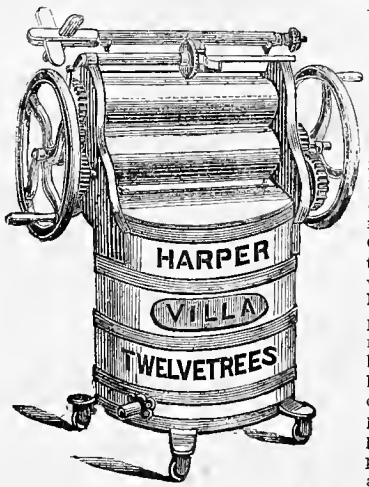

Does the Fortnight's Family Wash in Four Hours, without RUBBING OR BOILING, as certified by thousands of delighted purchasers It is easy to work, easily understood, strongly made, durable, does not injure the clothes, but really saves them; and is the only Washing Machine in the world which renders Boiling unnecessary, and saves five or six hours of copper firing each washing day. The Five-Guinea "Villa" Washer possesses tremendous washing power, and will wash 15 dozen collars and ladies' cuffs in five minutes; 150 pocket-handkerchiefs in five minutes; 60 hotel table cloths in an hour; 10 dozen bedroom towels per hour; 3½ dozen shirts per hour; 1½ dozen sheets per hour, and counterpanes, blankets, curtains, &c., in proportion. Such success is unparalleled! Illustrated Prospectuses and Export Quotations post free

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MORE AGENTS WANTED.

Sole London Agent for Kenworthy's "Paragon" Washing Machine.

CHARLES J. THURLOW,

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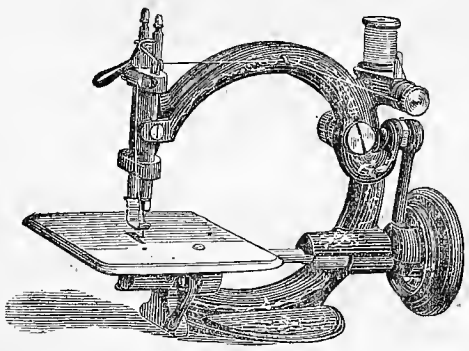

Either for Hand, Treadle, Stand, or Power. Lathes from 3½ inch upwards.

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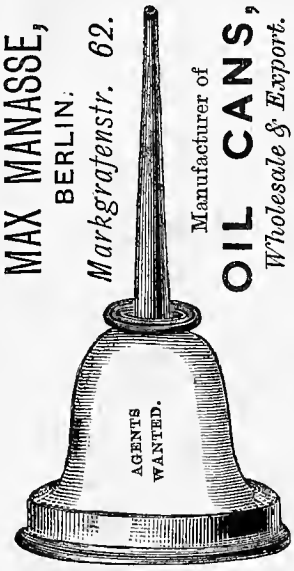
Manufacturer of **OIL CANS,** *Wholesale & Export.*



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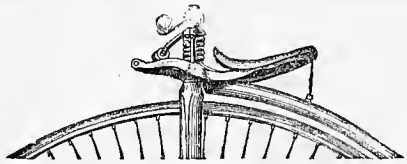
Patent Double Section Hollow Rims, 18s.6d per pair.



The Lightest and most rigid in the Market.

INVINCIBLE,

The only machine made with a perfect

SUSPENSION SPRING AND SADDLE.

The Patent D.S.H.R. Racer is the lightest and most rigid machine in the world List and Photo 4 Stamps. Illustrated List of Bicycle Fittings stamp. Special Terms to Shippers and Agents.

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INDIARUBBER BICYCLE and CARRIAGE TYRES of every description kept in stock, and supplied by return. Indiarubber Air Saddles, 7s. 6d.. post free all kinds of Bicycle requisites supplied in the rough or finish. Illustrated Price List, 1 Stamp. Smith & Co., Indiarubber Manufacturers, 87, Black man-st., London

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MANUFACTURERS OF THE CELEBRATED

Family and Medium Machine

WITH ALL THE LATEST IMPROVEMENTS.

ALSO MANUFACTURERS OF THE

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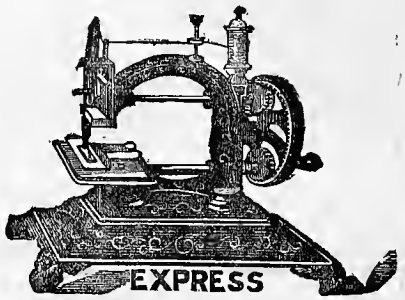
On the Wheeler and Wilson Principle.

Special Terms to Merchants and Shippers.

A LARGE STOCK OF

ROLLER RINK SKATES,

From **6/-** per pair.



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AGENT FOR SEWING MACHINES

OF EVERY DESCRIPTION.

Sole Agent for the "Little Europa" Lock-stitch Sewing Machines, and Royal Rink Roller Skates.

No. 1, NEW BROAD STREET,

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Lock-Stitch Sewing Machines from **27/** each.

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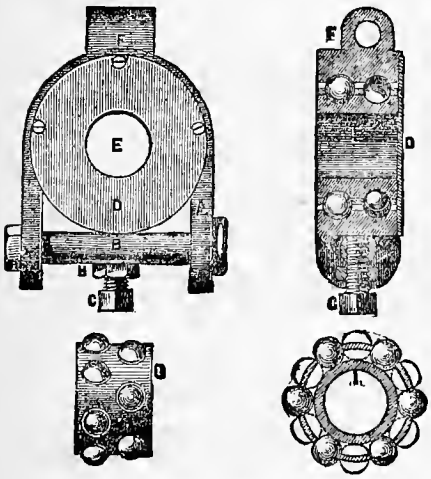

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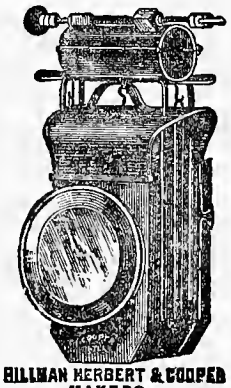

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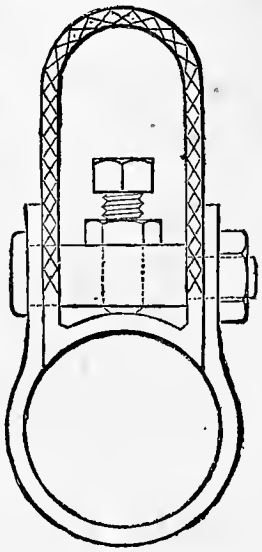

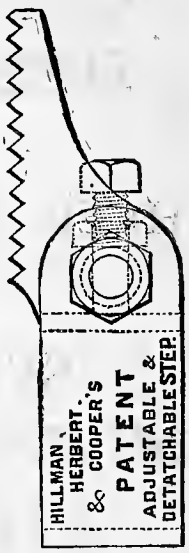

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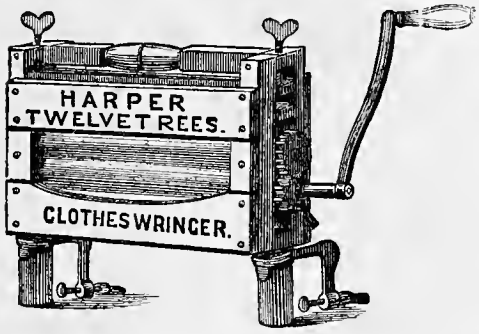

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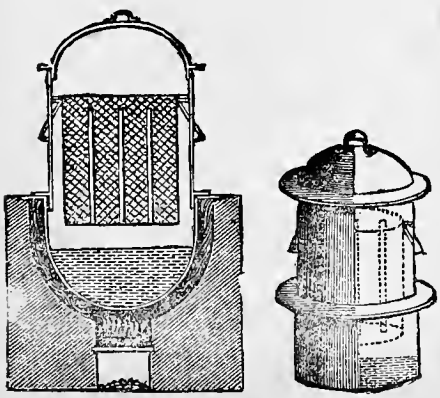

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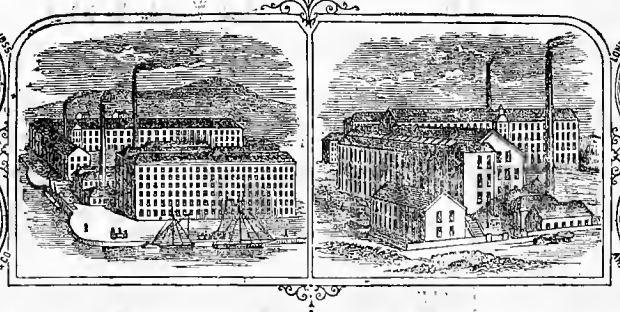

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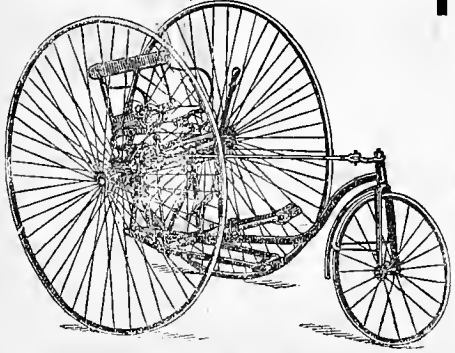

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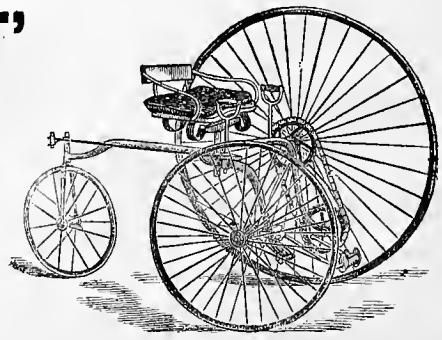

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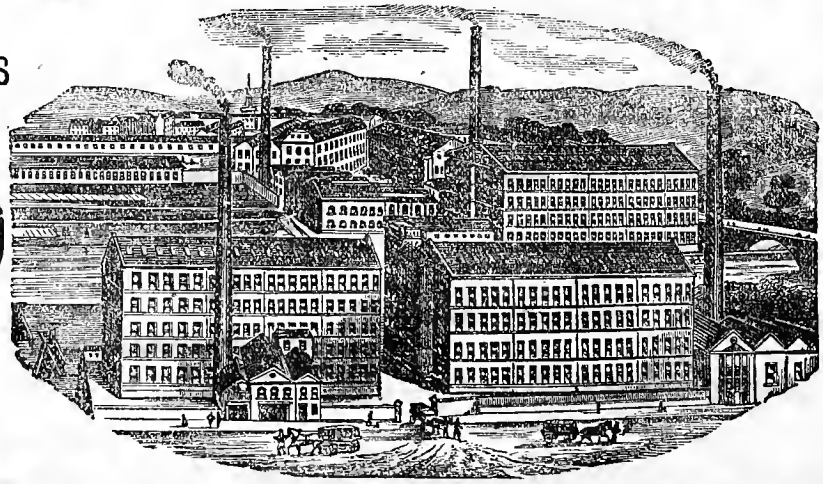

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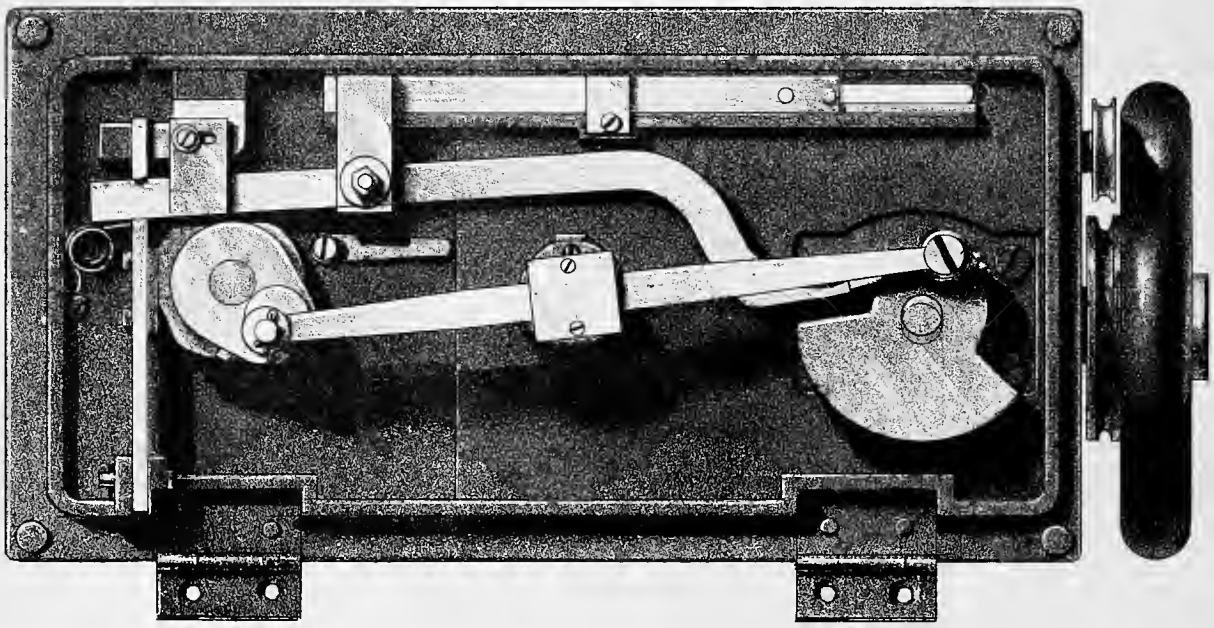

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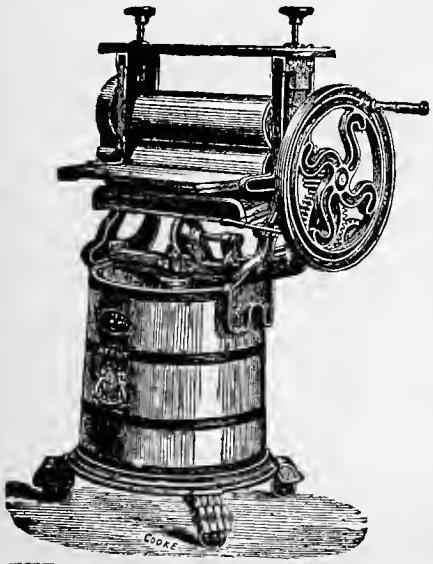

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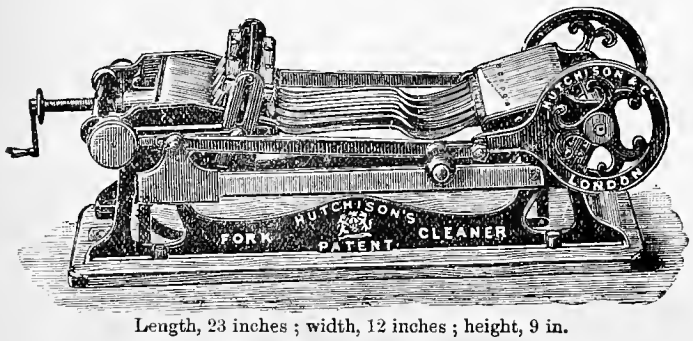

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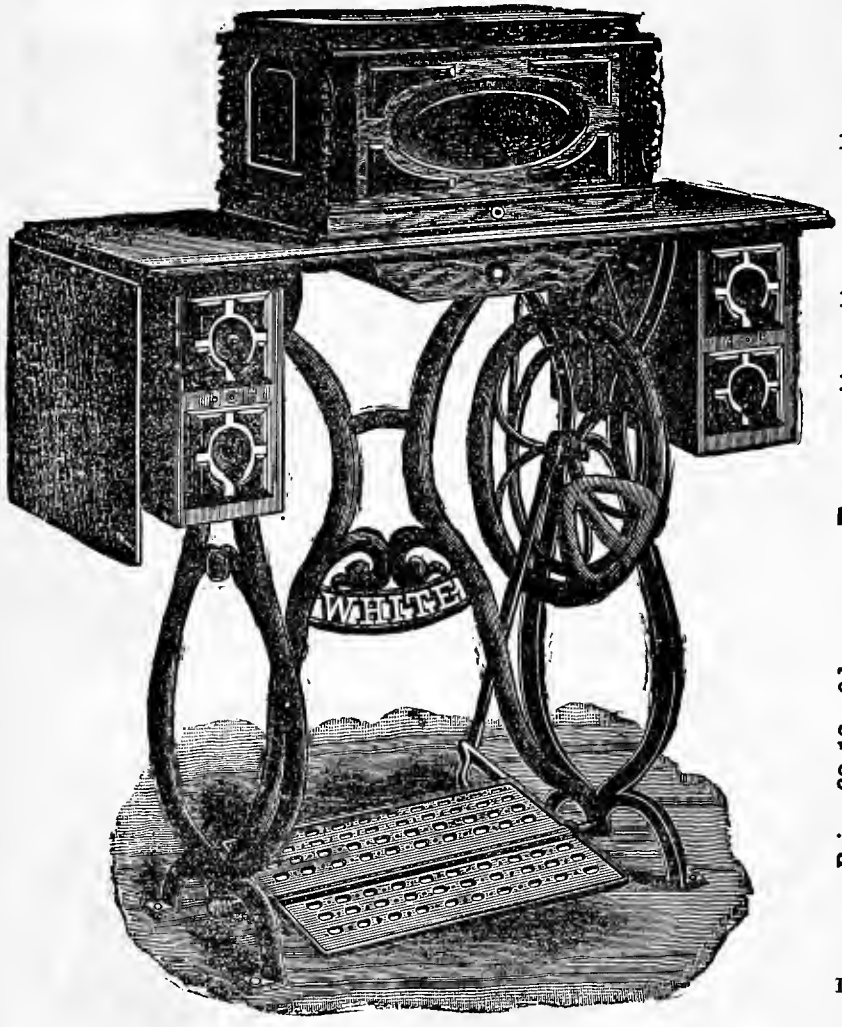

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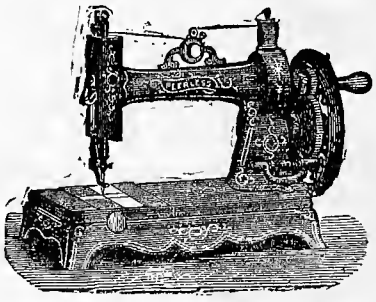

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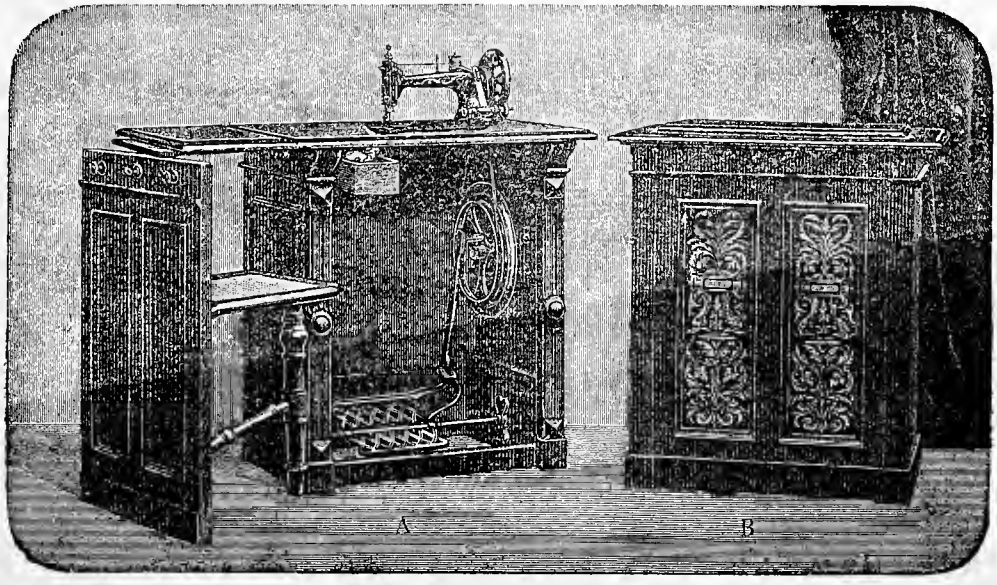

The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE.

Furnished for all systems of machines.

Very useful. More solid than iron stands.

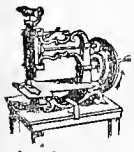
Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
Solid!
Elegant!

SECOND HIGHEST Medal AT THE LATE Sydney International EXHIBITION 1879.

Wholesale Agents wanted throughout the United Kingdom

RAYMOND'S
CANADIAN SEWING MACHINES.

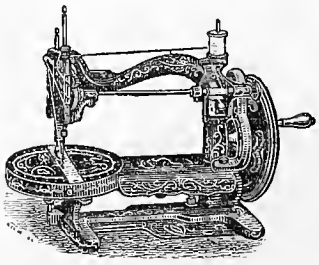


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these gennine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



£4 4s. Complete.

RAYMOND'S PATENT "Household" Lockstitch Machine has been designed expressly for family use. It is exceedingly simple to learn and to manage, and warranted to sew every kind of family and household work Is fitted with the latest improvements — loose wheel, and (Registered) Automatic Bobbin Winder

Testimonials, Prospectuses, Samples of Work, and all particulars free on application

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CHIEF DEPÔT FOR EUROPE AND EXPORT:

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P. FRANK, AGENT. ESTABLISHED 1863.

THE ELIAS HOWE SEWING MACHINES

MANUFACTURED BY

The Howe Machine Company,

LIMITED,

EXPRESSLY FOR BOOT & SHOE MAKERS,

FOR

SADDLE AND HARNESS MAKERS,

AND FOR

Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

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EASY TERMS OF PURCHASE.

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Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

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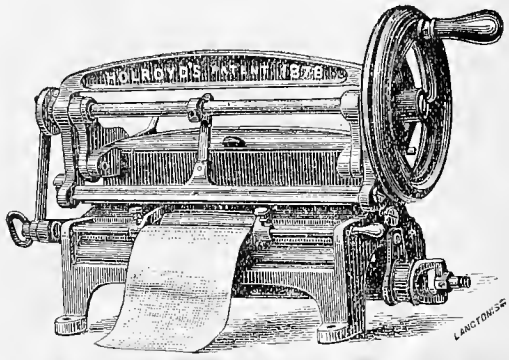
It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



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The Celebrated "**TAYLOR FRICTION**" Improved...	£4 14 6	£2 0 0
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Mangles and Washing Machines at full Discount. MOTHERSILL'S **Patent BICYCLES** 33⅓ per cent. off List Prices. Lists of Prices free on application.

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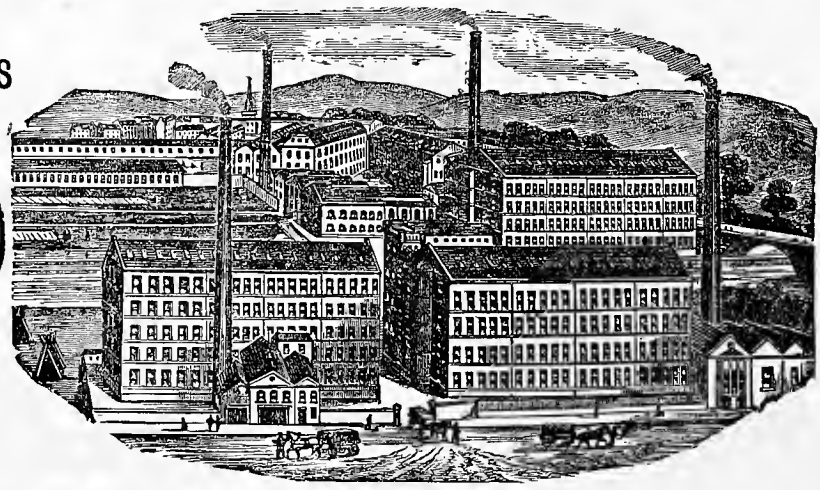

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MACHINE LINEN THREADS

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CELEBRATED OVER THE WORLD,

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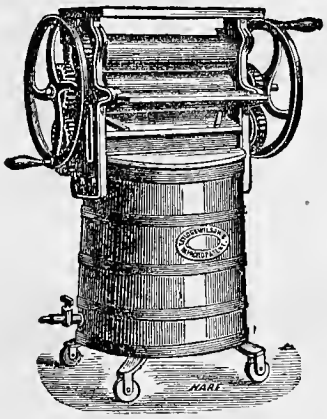

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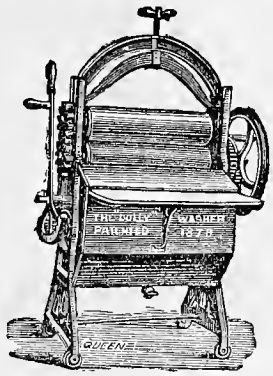

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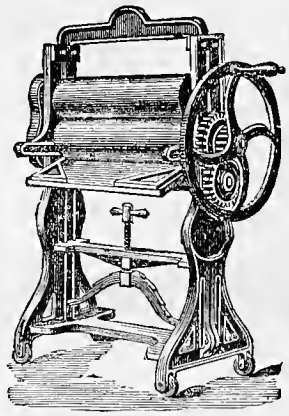

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Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

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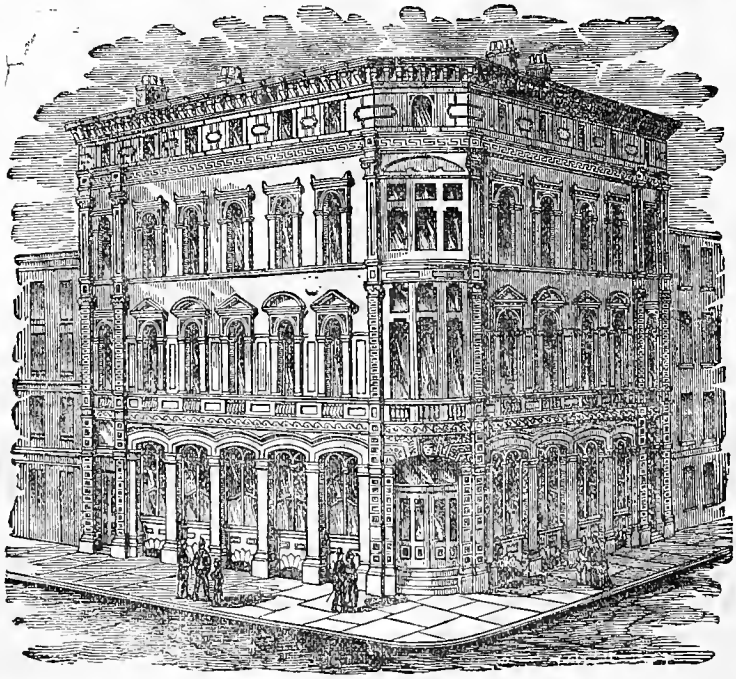

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THE ONLY SILVER MEDALS FOR

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Were awarded to the "CENTAUR" COMPANY COVENTRY,

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EXCELLENCE of WORKMANSHIP, INGENIOUS CONSTRUCTION, and EASE of PROPULSION

Full Descriptive Catalogues of the "Centaur" Bicycle and Tricycles, with Testimonials, Post Free on Application.

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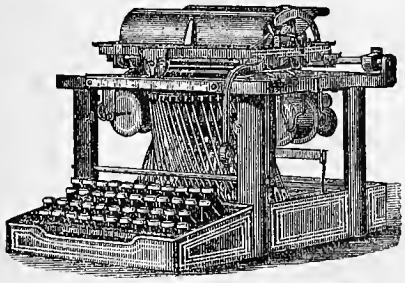

NO. 4. PERFECTED TYPE-WRITER.

It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, Lawyers, Clergymen, Doctors, Scientists, &c., &c., &c. Its advantages are great and numerous, and no one ought to be without one.

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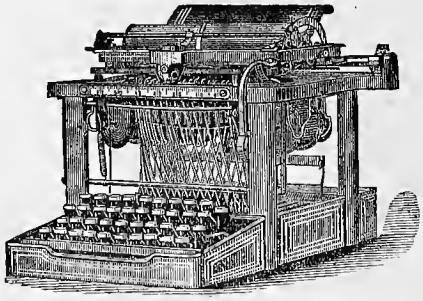

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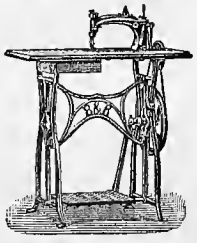

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Opposite the CATHEDRAL, COLOGNE.

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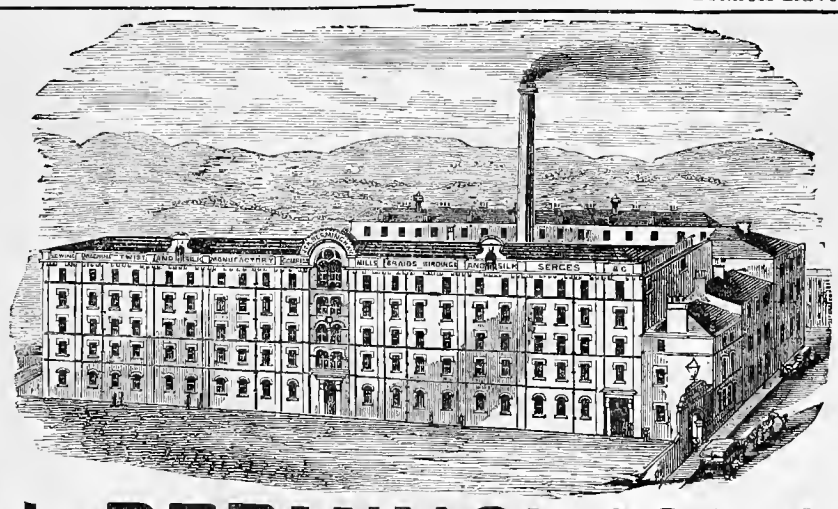

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HAVE INVENTED AND ARE NOW MAKING A

SILK BEAD TRIMMING

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The largest Sewing Machine Manufacturers in the World.

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PRICE from £4 4s.

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PER WEEK.

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MANUFACTURERS should see the Manufacturing Machines!

Are unsurpassed for the Factory or Workshop!

CAUTION!

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To AVOID DECEPTION buy only at the Offices of the Company.

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3, Ordnance Row, Barking Road, Canning Town, E.

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Bakewell, North Church-street.
Banbury, Market Place
Barnsley, Eldon-street
Barrow-in-Furness, 11, Dalkeith-street
Bath, 5, Quiet-street
Batley, Commercial-street
Bedford, 36, Midland-road
Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street.
Birkenhead, 164, Grange-lane
Birmingham, 93, New-street
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Bishop Stortford, Wind Hill
Blackburn, 54A, Church-street
Blyth, Woodbine-ter., Waterloo
Bolton, 52, Newport-street
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Bradford, 38, Mechanics' Instit.
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Brentwood, 3, Crown-street
Brighton, 6, North.,st., Quadrant
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Bromley (Kent), 18, High-street
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Burton-on-Trent, 76, Guild-street
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Cambridge, 17, Petty Cury
Canterbury, 6, High-street
Carlisle, Lorne-bldgs., Bank-st.
Chatham, 342, High-street
Cheadle, High-street
Chelmsford, High-street
Cheltenham, 24, Pittville-street
Chester, 68, Foregate-street
Chesterfield, 1, Corporation-bldgs.
Chichester, 54, East-street
Chorley, 50, Clifford-street
Cleckheaton, 5, Crown-street
Clitheroe, 39, Wellgate
Coalville, Station-street.
Colchester, 32, St. Botolph-street
Colne (Lancashire), 8, Arcade
Congleton, 7, Mill-street
Coventry, 12, Fleet-street (or Baldake Church)
Crewe, 37, Nantwich-road
Darlington, 10, Prebend-row
Dartford, 18, High-street
Deal, 124, Beach-street
Denbigh, 36, Park-street
Derby, 22, Wardwick
Dewsbury, Nelson-street (top of Daisy-hill)
Doncaster, 23, Scot-lane
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Dudley, 217, Wolverhampton-st.
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Gloucester, 116, Westgate-street
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Guildford, 161, High-street
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Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 57, Commercial-street
Hertford, Forden House, Ware-road
Hexham, 20, Market-place
High Wycombe, 123, Oxford-rd.
Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ilkeston, 75, Bath-street
Ipswich, 19, Butter-market
Jersey, 14A, New-street
Keighley, 2, Market-place
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Kidderminster, Bull Ring
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 38, Windsor-street
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Leek, 27, Russell-street
Leicester, 44, Granby-street
Lewes, 164, High-street
Liverpool, 21, Bold-street
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Loughborough, 44, Market-place
Lowestoft, 123, High-street
Luton, 32, Park-street
Lynn, 9, Norfolk-street
Maidstone, 8, King-street
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Manchester { 105, Market-street / 132, Cheetham-hill / 438, Stretford-road
Manningtree, High-street
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Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 28, High-street
Newport (I of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Otley, 34, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street
Ramsgate, 31, West Cliff-road
Rawtenstall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Ripon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane, and 100, Regent-road
Scarborough, 30, Huntriss-row
Scotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 51, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station Street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

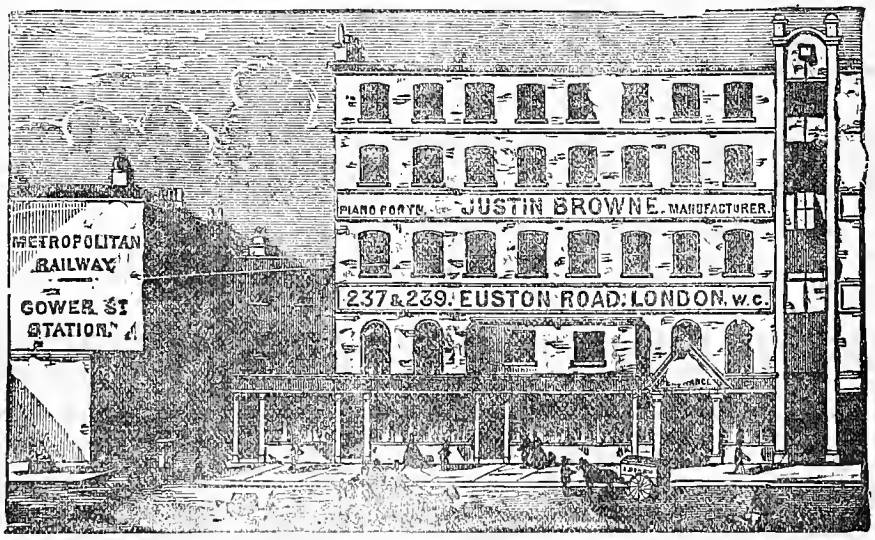
Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurso, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Domnick-street
Kilrush, Moore-street
Kingstown, 65½ Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford, Selskar-street

JUSTIN BROWNE

PIANOS FOR TROPICAL CLIMATES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237 & 239 EUSTON ROAD LONDON W.C.

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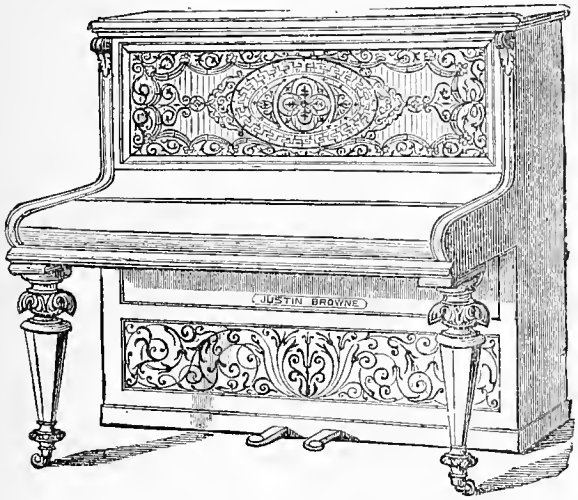
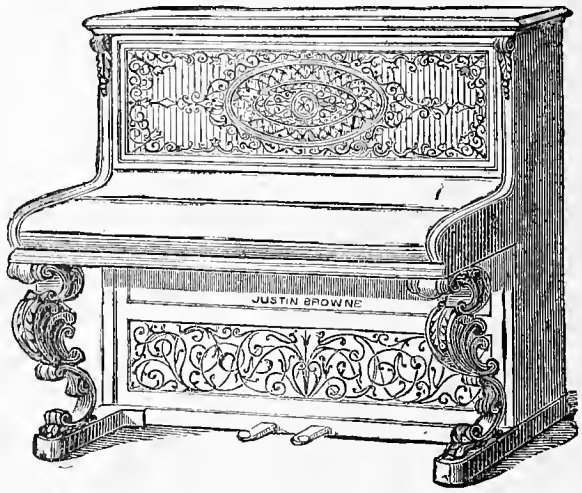
Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.





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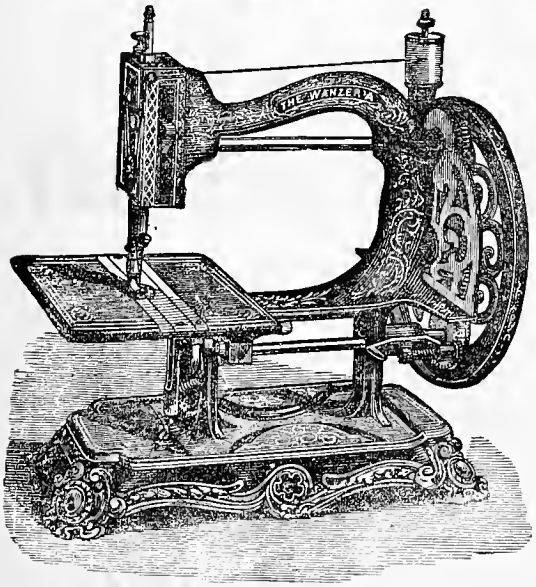

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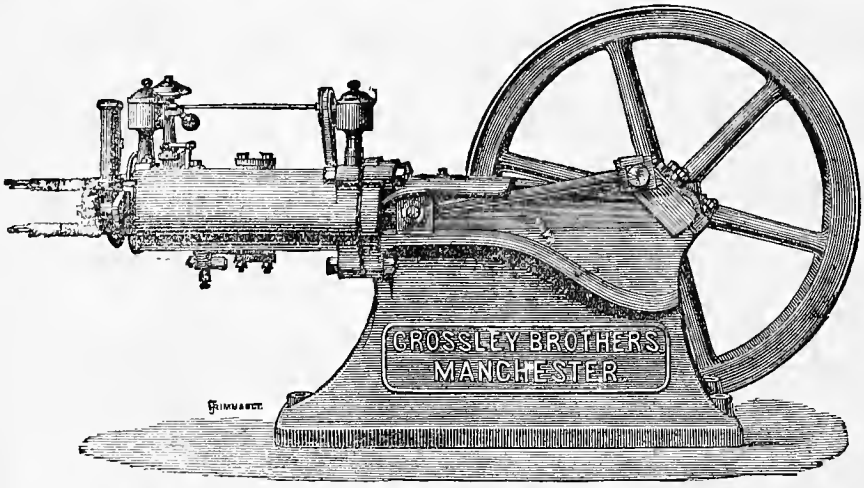

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COUNTY COURT BUSINESS.

The total sum sued for in the County Courts during the year 1880 has just been returned at £3,366,474, and the total number of plaints issued at 1,081,879. These big figures show that the business of those Courts is both great and growing, and they testify to a large increase upon the work done in former years. That an amount of £451,606 was taken during that period in court fees alone is also a striking testimony to the sums of money spent in such litigation. But, although this vast mass of business is got through somehow or other, and although a comparison of the returns for recent years shows a steady rise in the total number of cases brought in these courts, this rise is evidently in the smaller amounts, or at all events in those below £20. Above that sum and under £50, up to which the courts have jurisdiction, there has been a falling off in the number of plaints issued during the last five years, which is somewhat remarkable. It must, however, be remembered that for cases beyond the limit of £20 the High Court is generally used, as costs can then be recovered, while, strange as it may seem to many, the process is actually cheaper and quicker than in the County Courts. But by far the larger number of debts for which retail traders are compelled to sue are for amounts below £20, for the recovery of which the County Courts are well fitted, though there are many ways in which they could be easily improved.

The first point to be considered by a shopkeeper desirous of sueing a customer who will not pay after the usual applications have been made for money, is, as to which County Court is the proper one to issue his plaint. Of course, if a solicitor be employed, that will be his business. But many tradesmen still do their own law in these little matters, and so they need to have some practical knowledge. First, then, the plaint may be entered in the County Court within the district of which the defendant shall dwell or carry on business. This is clear enough, but it must be borne in mind that a mere employment anywhere is not a carrying on business, while a dwelling is in law a permanent residence. In the metropolis there is the further convenience that all the County Courts are looked upon as being within one district, and a defendant dwelling or carrying on business in the district of any one can be sued in that of any other. The same rules apply where the defendant has so dwelt or carried on business within the preceding six months; but then the license of the registrar must first be obtained. The third point as to jurisdiction is that a debtor may be sued in that County Court within the district of which the cause of action, either wholly or in part, arose. This is the most important question as far as those who have to sue customers in various parts of the country are concerned. It would obviously be almost impossible for such creditors to go into the various County Courts within the districts of which their debtors carry on business. Supposing a shopkeeper in London receives orders in London for goods to be sent into the country, then he can sue in his own County Court, as the order will be a part of the cause of action. So, also, if the order has been given to a traveller in the country, but the goods are delivered to a London carrier or railway by the customer's order, and he pays the carriage, this again will be a part of the cause of action enabling the creditor to use the County Court of his own district. Should neither the order nor delivery of the goods for which payment is sought have occurred within the tradesman's Court, then if the debtor has promised to settle the claim by letter received therein, that will be enough to support an action.

The next matter to be thought of is as to which form of summons shall be used, for there are now two, the ordinary and the default summons. Upon issuing an ordinary summons it will be served by the bailiff, and upon the day appointed for hearing, the plaintiff will have to go to the Court and be ready with his witnesses to prove his case, even though his claim be entirely undisputed and the defendant does not even appear. By using the form of a default summons much of this trouble will be saved, but the debtor must be personally served, either by the bailiff or the plaintiff himself, and this is often rather difficult. But unless the defendant gives notice that he intends to defend the action within sixteen days after service, judgment can be entered against him in default. Even should he do this, and a day of hearing be appointed, still, if the defendant does not appear in Court, there will at once be a judgment against him without further evidence, and an order will be made for him to pay forthwith. It is clear that the newer form of a default summons has many advantages. But it can only be issued where the goods have been sold to the debtor to use in the way of his trade, or the amount is over £5, or with leave of the Registrar for any lesser sum, which, however, is usually given as a mere matter of course. If a case has to be tried it will become necessary for the plaintiff to make good his claim, and he must be prepared with witnesses for its support. One word of warning is much needed upon this point. Books of account do not prove themselves.

This seems simple enough, and yet it is quite a common thing for a tradesman to produce his books in Court, and pointing to the items entered against the debtor, think he has made out his case. It is true the judges often look at these accounts for their own guidance, but not as legal evidence. In order to show that a certain sum is owing, the creditor must prove the order given by his debtor for the goods in question, and their delivery. If it be due upon a bill of exchange then it will be enough to produce the bill and prove the signature. Also, if the defendant has either verbally or in writing promised to pay a specified amount, there is no need to go back any further, and upon evidence being given of that spoken promise by the person to whom it was made, or of the handwriting, if it was written, the plaintiff will get judgment.

Although the business of the County Court is carried on with fair smoothness, there are many points upon which the practice needs amending. In two main particulars this is especially manifest. The fees charged are far too high, and the procedure much too slow. Taking a case of £15 as an example, the fee upon issuing the summons will be 16s., and upon the hearing 30s., making altogether a sum of £2 6s., before even an order to pay can be obtained, and this too for Court fees alone, and independently of all legal and other expenses for witnesses and the like. Most assuredly this is out of all fair proportion, and it is not surprising that under such a system many tradesmen prefer to let well, or rather ill, alone, and doubt the prudence of throwing away good money after what may be bad, and is at least of uncertain quality. It is quite time the whole scheme of fees in the County Courts were reconsidered. It was framed when these tribunals only aimed at the more easy recovery of small debts, and for petty sums it is reasonable. But the business taken to these Courts has now outgrown the original plans of their promoters, and it has become plain that the proportionate scale of fees is not adapted to that business, and is wholly inapplicable to trade claims of average amount. It was proposed in 1872 by the Judicature Commissioners, that there should be a great and general reduction in these Court fees, and seeing that a writ in the High Court for whatever amount only costs 5s., there should be some similar limit fixed in the County Courts. Then again, sixteen days is too long a time to allow a defendant in which to give notice of defence in a default summons, especially as in the High Court upon a writ only eight days' time is granted. Everywhere throughout the whole of the County Court system there is this undue delay. Even when an order for payment is at last obtained, it is generally made for small instalments covering months, and even years, and giving creditors endless trouble. It would, we think, be time enough to think about payment by instalments when it was clear the debtor could not pay down, and upon the hearing of a judgment summons. But the County Court officials are like all others—tied up in red tape; and it seems likely to be a long while before we get a cheap and speedy way of doing County Court business.

When a man is about starting for home after the church sociable, and finds his umbrella gone—an umbrella that has been in the family until it has become an heirloom, sir—his first impulse is to tear around and use language, crush his hat over his throbbing brows, and rush out into the night and rain. His next is to soothe his tempest-tossed bosom by selecting the very newest and best parachute he can lay his hands on, and going home with forgiveness in his heart and the umbrella over his head like a good Christian.

HANDSOME DESIGNS AND TASTEFUL ORNAMENTATION.

The poet Keats said, "A thing of beauty is a joy for ever," and the apt phrase has passed into the language. Who has not felt the potent influence of beauty, in whatever form it may appear? We beautify and adorn our homes, our parks, and cities; art has striven for centuries to heighten and improve the various forms of beauty, and has exercised all its ingenuity to discover new ones.

Manufacturers nowadays make a constant study of how to render their products pleasing to the eye, as well as efficient and durable in their use, recognising the fact that even articles of the commonest necessity can also be articles of ornament. Household furniture, stoves, and even kitchen utensils are produced in handsomer shapes and tasteful ornamentation. The beautiful in nature and in art is largely drawn upon for new and attractive styles of embellishment. The peculiar forms of decorative art that appeared at various long-departed epochs of the world's history, and which have been handed down to us in a state of perfect preservation by architecture, sculpture, painting, and pottery, furnish those patterns of elegant adornment known as the Egyptian, Arabesque, Tuscan, Doric, Ionic, Roman, Grecian, Etruscan, and other antique styles of rare beauty and originality, which are the greatest monuments the ancients have left of their genius, and the most useful heir-looms they have bequeathed us. The peculiar characteristics of mediæval art are secured to us in numberless specimens of Gothic and Norman ingenuity. The eccentric, though beautiful adornment, in the Chinese and Japanese modes has recently come much into fashion, and the handsome Eastlake pattern is greatly sought after among the modern styles of decoration. Landscape scenery, flowers, fruit, the beasts of the field, and the fish of the sea, afford subjects for decorative art, and are applied in every conceivable manner. Even the heterogeneous element of chance is brought into play to assist the invention in devising new forms of beauty. The Kaleidoscope, that ingenious invention of Sir David Brewster, is not merely a pretty toy to please childhood with, but serves a most useful purpose by being much employed in arts of design, for by its arrangement of variously coloured reflecting surfaces, it exhibits its contents in an endless variety of beautiful tints and colours and symmetrical forms. The carpet manufacturers, especially, owe everything to its use, for without it human ingenuity would have been unable to produce the numberless patterns that are in existence.

The prevailing taste for the beautiful in design and ornamentation has compelled the manufacturers to become almost as close a student of art as the professional artist himself. The sewing machine manufacturer must keep pace with the times, and in putting his wares upon the market he cannot afford to neglect the element of beauty. As it very often stands in the sitting-room of a household, the machine should be a thing of ornament as well as use. Women, who have keen eyes for the beautiful, are greatly influenced in their selections by the appearance of an article, and, from this point of view, beauty of machines is of paramount importance to the sewing machine manufacturer as a selling feature. Most of the machines upon the market are elaborately ornamented, and some of them even tastefully, but there is room for improvement. The matter should be made one of the most special attention and study in the factories. With the enormous variety of good, handsome, and even striking designs and patterns at their hands, it would indeed show a great poverty of enterprise were manufacturers to fail to take advantage of every means of increasing the attractiveness of their machines. Originality should, of course, be aimed at, as it gives distinctive character and constitutes a species of trade mark; but in the search for originality of ornamentation, all that is gaudy, vulgar, and cheap-looking, should be avoided. Plainness, not severe, but elegant, is what best suits the sewing machine. A stand of light and handsome style, a bed-plate ornamented with some handsome device, wood-work of a decided pattern, and the whole symmetrical throughout and devoid of glaring contrasts is what best pleases the eye, and all of these points can be secured without servile imitation of others, or, indeed, without sacrificing one jot of originality, so large is the field from which such designs, patterns, and ornamentation, can be selected.

Agents and dealers know full well the great value to them of having machines look as handsome as possible, and those who believe the machines they are selling to be deficient in handsome design and tasteful ornamentation, should call the attention of their manufacturers to the points we have alluded to in this brief article.—*Sewing Machine News.*

HINTS FOR COMMERCIAL TRAVELLERS.

Lord Chief Justice Coleridge, in the course of a few eulogistic remarks which he passed on the judicial merits of the late Lord Chief Justice Cockburn, just after his death, said to this effect, that one of his highest qualities as a judge was that in the hearing of a case he always kept his mind open, without bias, till the case was completely laid before him. In other words, he was thoroughly impartial and free from prejudice in his judgment. Now, this highest attribute of a judge on the bench of justice, viz., impartiality or freedom from prejudice, is exactly the first essential requisite in a first-class buyer. He must be a thoroughly unprejudiced man; unprejudiced alike as to the person who shows him goods and as to the source from which they come.

Notwithstanding the high value of this qualification, the amount of prejudice that one continually meets with is truly wonderful, as any commercial man who has any commodity to sell, and is in the habit of calling either on wholesale or retail buyers, will at once, and without the slightest hesitation, testify.

You call on a man for the first time; you have never before seen him, and he has never previously seen you. You know you have got a first-rate article to sell. However, you have barely got over the customary salutation, "Good morning, sir," and are proceeding with a polite description of your wares, when, with a supercilious toss of the head and a curt "Not to-day, thank you," you are abruptly cut short, and off like a shot goes your anticipated buyer, leaving you to think that your tact is not quite so fine as it should be, and that you are not so clever as you really thought you were.

You call on another man. You have frequently called on him before. You are always received most courteously. He always looks at your goods, and will look at them as long as you please; but even if you quote half price the answer is always the same: "Quite full, thank you." Your tact has in this case, so far, obtained an inspection of your goods, but your persuasive powers have no effect in overcoming that man's prejudices to make him a buyer. He is prejudiced against your house, and so strong is that prejudice that no earthly price you could name would tempt him to buy a line from the house which you esteem it such an honour to represent.

However, notwithstanding all I have said, I must admit that I believe this kind of prejudice is year by year gradually dying out. In proof of this I would only say that a connection, although a thing to be highly prized, is not now of the same value as it was some years ago. Wide-awake tradesmen now-a-days are ever becoming more alive to the intrinsic merits of goods, and care less either for the house that has the goods to sell or for the individual that represents the house, however worthy and estimable as a man he may be.

In further proof of this position I might point to many good old houses that have within the last two or three years retired from the trade, and, on the other hand, I might name others that during the same time have sprung into an enviable notoriety; but I forbear, as such an enumeration might appear somewhat invidious. To show how this prejudice works I shall relate an incident of my experience which occurred in a large city in the north immediately after the close of the American war.

One afternoon, while very busy and in my shirtsleeves, a young, raw, red-headed Irishman stepped up, and, addressing me, said he wanted to see the buyer. "Well," said I, "I believe I am that gentleman." "Well, sir; I have some cheap Cream Roughs to sell." "Indeed, whom do you represent?" "So and so, sir." "Oh, I never heard of the name

before—a respectable house, eh?" "Yes, sir; but they are not a large house and have never done business here before." "Never mind that; let me see your goods?" I gave him a fair order, and told him that if the goods came up to sample, it might lead to a good business. Then I immediately said, "Good day." "One minute, sir," he said. "I want to thank you; you have saved my situation, as this is the only order I have taken to-day. I called on every buyer in the trade and was snubbed by every one of them; not one would look at my samples, and as you were the last I had to call on I was doubtful whether or not to look you up, but now I am glad I have done so, and I thank you."

The result of this incident was that although the house I bought for then was considered second rate, we were for a long time the only house in that city that had the right finish and make of those particular goods. The consequence was we did a roaring trade; the department shot ahead; people who never before done business with the house bought this special line either through the travellers or in the house. At the same time they were shown other goods which they bought as well. So through this special line the whole house received a stimulus, was benefited thereby, was so much the richer at stock-taking, and stronger against their opponents over the ground which they covered.

WHY THE MECHANIC MAKES THE BEST AGENT.

The man who has had a mechanical experience with sewing machines, either as an adjuster or at the bench in some department of the factory, makes the best sewing machine salesman, and the best man to control an agency, provided he has other necessary qualifications of a good business man, because he has acquired an invaluable experience which can only be obtained by actual work, it being as impossible to learn it by theory as it is, indeed, to gain practical knowledge of any kind. He knows, from careful study, if he has been an observant man, the functions of each portion of the mechanism and the precise part it is expected to play in combination with the rest. He understands the nicety of adjustment to a hair, and can tell when a machine is at the perfection of its running capacity—if necessary, he can sit down and adjust a machine himself, or show a subordinate how to do it. He can detect a defect at a glance. He does not find himself compelled to bend all the morning over a machine which is slightly out of time, or runs a little harshly, to find out where the trouble is; he instantly sees where the complaint lies, and readily applies the remedy.

Knowledge of this kind is invaluable to an agent, for it enables him to see that his stock of machines is kept up to the proper standard. When a number of machines reach his office and are uncrated, he can give his personal attention to their thorough overhauling, for all machines are thrown more or less out of adjustment by the handling and jolting in their transit, and before being put on sale they should be restored to the accuracy they had, when passed at the factory after the process of "sewing off" has been gone through. The agent who is capable of thus keeping a hawk's eye after this most important branch of his business, can materially improve the calibre of his employés by imparting to them a portion of the knowledge that his experience has taught him. His canvassers, when they enter a competition, will be able to see if a machine is exactly right before they begin to show it off, and if it is not they will know how to make it so instantly, which will give them a great advantage over competitors who are deficient in this respect. Besides, the chances of a machine ever leaving the office in a state of imperfect adjustment are materially reduced by his vigilance, and although he knows that accident is liable to happen on the way to the customer's house, he can always feel secure in his confidence in his men's ability to remedy it. When a machine is left on trial at a prospective buyer's house, his canvassers can call from time to time to look after the machine, and restore it to its proper adjustment when thrown out by the carelessness or ignorance of the party trying it, a thing which very often happens, and, by thus keeping the machine right up to its highest standard, the chances of a sale ultimately are materially enhanced. Such points as these give the agent who understands from practical experience the mechanism of the sewing machine an immense superiority over those who lack such knowledge, or only have a theoretical smattering of it, and are obliged to trust the vital department of adjustment to an employé, who may or may not be competent, for all he can tell.—*Sewing Machine News.*

THE AGE OF BICYCLING.

"Unquestionably the bicycle bids fair to become as important a factor for enlarging the scope of personal travel as the railroad has become for its rapid collective circulation." Such is one of the opening sentences of an essay called a "Bicycle Era," which appears in the July number of *Harper's Monthly Magazine*. The "silent horse" was unknown to the boyhood of men whose years do not exceed the age of the Prince of Wales, and yet bicycling has already grown, according to the boast of one of its accredited organs, into "the only athletic sport at which Englishmen can distance the world." As regards cricket, Australia has already sent one eleven to our shores which carried off high honours in the mother country, and threatens soon to send another which, instead of whips, expects to chastise us with scorpions. Upon the river, too, our sculling champions were easily defeated by Trickett, an Australian, who in his turn had to surrender his freshly-acquired bays to Hanlan, a Canadian. Upon the cinder path, where is the English sprint runner who can hold his own against Myers and Merrill? We will not stop to notice the victory of Iroquois, a Transatlantic-bred horse, for the Derby, since his triumph was gained over equine and not over human muscles; but it is sufficient to remark that, in many fields where our compatriots were once without a rival, they are now compelled "to take a back seat." It is inexpressibly mortifying for us when we reflect that England is now reduced to a condition in which, to parody a well-known line of the poet Cowper, she can alone claim "the honours of the bicycle as all her own." But, as has often been asked of some nation which has had the worst of a big war, "Will she be content to stay whipped?" Happily, it is still one of our proudest national characteristics that we never know when we are beaten, and each succeeding year brings forward a new crop of accomplished cricketers, from whom haply will spring an eleven which may wrest the laurels gained by their predecessors from the next Australian gang of ambitious wielders of the willow. The wonderful "time" achieved by Myers will, again, stimulate English competitors to put forth their choicest efforts with a view to defeating it. In the meanwhile, let us make the most of our unquestioned superiority as bicyclists, and remember with satisfaction that our "wheelmen" have outlived the prejudice with which the unearthly, weird-looking machine was once regarded upon every road frequented by riding and driving men. Immortal fame ought to be the meed of the English mechanist who first addressed his energies to the purpose of improving the French célérifère, or "speed-maker," until he and his successors had brought it up to the level of the best modern bicycle. The "poor man's horse" has, beyond all question, added incalculably to the health, the pleasure, and the resources which it has brought within the reach of many for whom locomotion upon wheels had theretofore been confined to rides upon the railroad and the omnibus. The four-in-hand drag is one of the many appanages which Crœsus claims for his own, but the bicycle is now mounted and steered by thousands of young men to whom pence are more important than the ten-pound notes which are freely spent by the affluent few.

For this reason we anticipate a bright and constantly expanding future for the bicycle. It is a plant of recent growth, but the popularity already attaching to the pursuit, abundantly shows how deep it has struck its roots. There are said to be to-day in England more than two thousand different manufacturers of bicycles, and among them they produce more than three hundred varieties of the machine. Endless modifications and improvements are introduced year after year in its structure, and it has given birth to a flourishing and ably-conducted literature of its own. Moreover, it has supplied its votaries

with a never-ceasing list of itineraries which furnish the tourist with information as to the best and most level roads, the cheapest hotels at which comfort can be secured, and the most inviting opportunities for riding the new horse along the highways of the Continent. Instructions are forthcoming for those tourists who introduce their bicycles into France, accompanied by hints how to keep off the aggresive curs which haunt the villages. What an untold amount of suffering and labour would not the bicycle have spared to the author of "The Traveller," as he tramped through France on foot, depending upon his flute to gain him a night's lodging and a supper? On arriving at a cabaret or at a farmhouse, or even at a cottage, the tourist has no oats to pay for, no stall littered with straw to search out, as the "silent horse" needs less accommodation than the poorest and most thrifty of his riders. Even the douaniers, or Custom House officials of France—a land which has always eyed English machines of all kinds with jealous suspicion—are beginning to look with sympathy upon a locomoter which makes special appeals to democratic nations. There is no country in the world where peasants have less opportunity of riding upon wheels than the land which lies across the Channel; and none, moreover, in which economy is more prized. The advantages conferred by the bicycle upon postmen who have long tracts of road to traverse upon foot have already begun to make themselves especially felt in Wales, in Scotland, and in out-of-the-way districts of these islands; and we entertain no doubt that France will eventually adopt the machine for the improvement of its remarkably slow and dilatory postal service. It is the custom to deliver letters by hand even at the most inaccessible houses in the Pyrenees, the Vosges Mountains, and the Jura; but what is thus gained in security by the recipients of written and printed communications entrusted to the mails is neutralised by the concomitant tardiness in their delivery. Yet, although it is certain that, sooner or later, the innovation will be largely adopted upon the Continent, it must not be forgotten that the steerage of the bicycle demands no small amount of experience, of courage, and of skill. The risk to the rider, for instance, is far greater when he is going slow than when he is going fast, for the momentum of the vehicle contributes powerfully to the maintenance of its equilibrium.

It is not to be expected that a Frenchman who has once "taken a header," or, in other words, has been discharged headlong from the saddle, will easily be tempted to resume his perilous seat. The superficies of this seat is not larger than that of a cheese plate, and for men unaccustomed to the sight nothing is more calculated to inspire fear and distrust than the descent of a steep hill by an accomplished English professor of the new art, who, lifting his feet from the spontaneously revolving treadles, allows the machine to spin along with lightning velocity, accelerated by the momentum of its own specific gravity. We are happy to observe that our American kinsmen have not been slow to perceive the utility and economy of the spindle-wheeled horse, which requires for its sustenance nothing but a few drops of oil, and no other shelter for the night than the roughest outhouse that will keep off the rain. Thus we read that a "League of American Wheelmen" was formed in 1880, which already boasts the support of more than fifteen hundred members. This League is intended for the benefit of amateur wheelman; an amateur being defined—we mention the fact for the benefit of the "Temple Bicycle Club"—as "a person who has never competed in an open competition, or for a stake, or for public money, or for gate-money, or under a false name, or with a professional for a prize, or where gate-money is charged, nor has ever personally taught or pursued bicycling or other athletic exercises as a means of livelihood. Draconian for this country, as the best bicyclist in England, is at the present moment an amateur who has given evidence of his prowess in open competition against professionals. Our great annual gatherings of two thousand bicyclists, and upwards, in Bushey Park, leave far in the lurch the exhibition of nearly a thousand wheelmen, which took place at Boston, in Massachusetts, on the 30th of last May. Indeed the roads of the United States, even in the oldest and most settled part of the Union, forbid the probability that the speed, grace, and confidence of English bicyclists will soon be attained on the other side of the Atlantic. When the road is bad and covered with stones, even a moderate hill reduces a bicyclist to the necessity of dismounting and of walking up the ascent by the side of his "horse," which he pushes forward by hand. It is, however, a just matter for pride to Coventry, and to other English towns where the best bicycles are made, that the most ingenious and mechanically-skilful nation in the world has hitherto been satisfied, knowing that it cannot make them so perfectly or so cheaply, to import its "silent horses" from this side of the Atlantic. In the great cities of the United States we shall look in vain for steersmen who thread their way upon bicycles amid the Babel of streets, densely crowded with vehicles of all kinds. But nothing can be more satisfactory, in conclusion, than that thousands of young Englishmen belonging to the humbler classes, and selected from the ranks of clerks, of small tradesmen, and of shopkeeping assistants, should have found a healthy, economical, and open-air exercise whereby to recruit energies sapped by the exhausting surroundings and influences which beset those who are long "in populous cities pent."

SUBSTANCES AND REAGENTS SUITABLE FOR THE REMOVAL OF SPOTS.

Pure water, cold or hot, or mixed with acids, serves for rinsing goods in order to remove foreign and neutral bodies which cover the colour.

Steam softens fatty matters, and thus facilitates their removal by reagents.

Sulphuric acid may be used in certain cases, particularly for brightening and raising greens, reds, yellows, &c.; but it must be diluted with at least 100 times its weight of water, and more in case of delicate shades.

Muriatic acid is successfully used for removing ink stains and iron mould on a number of colours which it does not attack.

Sulphurous acid is only employed for whitening undyed goods, straw hats, &c., and for removing the stains of certain fruits on silks and woollens. Sulphurous gas is also used for this purpose, but the liquid acid is safer.

Oxalic acid is used for removing ink and rust stains and remnants of mud stains which do not yield to other detergents. It may also be used for destroying the stains of fruits and astringent juices, and old stains of urine. However, its use is limited to white goods, as it attacks fugitive colours, and even light shades of those reputed to be fast. The best method of applying it is to dissolve it in cold or lukewarm water, to let it remain a moment upon the spot, and then to rub it with the fingers.

Citric acid serves to revive and brighten certain colours, especially greens and yellows. It restores scarlets which have been turned to a crimson by the action of alkalies. Acetic acid (or tartaric) may be used instead.

Liquid ammonia is the most powerful and useful agent for cleaning silk stuffs and hats, and for neutralising the effects of acids. In this latter case it is often enough to expose the spots to the vapour of ammonia, which makes them disappear entirely.

It gives a more violet tone to all colours obtained with cochineal, lac, Brazil wood, and logwood, or topped with cochineal. It does not injure silks, but it sensibly attacks wooden tissues at high temperatures. It is also used for restoring black silks which have been damaged by damp.

Carbonate of soda (crystals) may be used in many cases where ammonia is employed. It is good for silk hats which have been injured by sweat.

Soda and potash (caustic) only serve for white linen, hemp, and cotton goods, for they attack colours, and injure the tenacity and flexibility of wool and silk. For the same reason white soap is only used for cleaning white woollen goods.

Mottled soaps suit for cleaning thick tissues of woollen and cotton, such as quilts, which are not submitted to friction. For such tissues, when they do not require much suppleness or softness, the action of the soap may be enhanced by a slight addition of potash.

Soft soap may be usefully employed in solution along with gum or other mucilaginous materials for cleansing dyed goods, and especially self-coloured silks. It removes spots more

easily than white and mottled soaps do, and injures the colours less.

A soap bath serves for thoroughly cleansing whites and fast colours. It may be employed in washing machines like the solution of soda crystals, and often after a passage through the latter liquid. It is prepared by dissolving thin slices of soap in boiling water, and should be kept in stoneware pans or wooden troughs.

Soap powder is chiefly used in cleansing kid gloves.

Ox gall has the property of dissolving most fatty bodies without injuring the tissues or the colours. It may be used in preference to soap for cleansing woollens. But it cannot be used for very light colours, for it sometimes gives them a pale greenish yellow shade. It is occasionally mixed with oil of turpentine, alcohol, honey, yolk of egg, clay, &c., and in this state it is used for cleaning silks. (Unmixed galls may also be used with perfect success for dark silks.)

To produce a satisfactory effect the gall should be very fresh. A simple method to preserve it consists in tying a strong cord round the neck of the membrane containing the gall, and immersing it in boiling water for some time. When this is done take it out and dry it in the shade.

Yolk of egg has about the same properties as gall, but it is too costly for general use. It must also be employed as fresh as possible, as it loses its efficacy on growing old.

Sometimes it is mixed with an equal volume of turpentine and employed luke warm.

Liquidations by Arrangement.

Rickerby, George, Caledonian-road, Islington, ironmonger. July 6.

Wood, Charles, and Alfred Parkinson, Heaton Norris, laundry engineers and machinists. July 9.

Arnold, Henry Heard, Old Town-street, Plymouth, ironmonger. July 1.

Reed, Daniel, Market-place, Doncaster, ironmonger and gasfitter. July 2.

Scott, George, George-street, St. Helens, ironmonger. July 12.

Buncombe, John Clarke, Bruton, Somerset, ironmonger. July 14.

Chadwick, Thomas, Brindley Ford, Wolstanton, Staffs., ironmonger. July 18.

Griffiths, Frederick Ezekiel, Market-street, Llanelly, corn and provision merchant, trading as Griffiths Bros., ironmongers and curriers. July 14.

Bills of Sale.

Oldmeadow, James, 6, Portland-terrace, Cheltenham, general ironmonger; £36, &c. In favour of Henry G. Margrett. Filed July 1.

Raison, Henry Wm., 11, 13, and 15, Rochester-row, Westminster, ironmonger; £770, abs. sale. In favour of Henry Raison. Filed June 29.

Welch, Alfred, 77, Eign-road, Hereford, sewing machine agent; £15, &c. In favour of Joseph Blaiberg. Filed June 27.

Ibbotson, George, 148, Infirmary-road, Sheffield, ironmonger; £14 10s., &c. In favour of John Jacobs. Filed July 16.

Roberts, John, Warwick House, Bridge-street, Corwen, Merionethshire, ironmonger; £93 10. In favour of Wm. Williams. Filed July 13.

Vero, Charles, Sheepy Magna, Leicestershire, machinist; £33, &c. In favour of John Wilkinson. Filed July 13.

Woodhouse, Charles, Sloely, Norfolk, machine proprietor; £150, &c. In favour of John Woodhouse. Filed July 16.

Godden, Wm., 1, Oriental-cottages, Vincent's-walk, and 11, East-street, Southampton, whitesmith and ironmonger; £65. In favour of Richard Howard. Filed July 18.

Jackson, Emma, Long-street, Middleton, Lancashire, ironmonger; £190, pur. money. In favour of S. Fletcher and another. Filed July 21.

Turner, Arthur, Lynchford-road, North Camp, near Aldershot, ironmonger; £944 4s. In favour of Henry Turner. Filed July 7.

Plucknett, Samuel, Leigh Villa and Bicycle Manufactory, Cheltenham-road, and 12A, Regent-street, Clifton, Bristol, bicycle manufacturer; £260, &c. In favour of George Powell. Filed July 9.

Hibbert, Henry, 461, Attercliffe-common, and workshops opposite Carbrook, near Sheffield, ironmonger, &c.; £50, &c. In favour of Benjamin Jacobs. Filed July 4.

Shepherd, James Charles, trading as J. C. Shepherd and Co., 18, Old Kent-road, gas cooking, &c., apparatus manufacturer; £82 10s. In favour of Henry Vesey. Filed July 18.

White, George, 1, Eleeszar-place, Christchurch, Hants., late ironmonger; £200. In favour of Risden W. Sharp. Filed July 12.

Dissolutions of Partnership.

Noakes, Henry and Richard, Maidstone, ironmongers. March 25.

Parrish and Green, Hanley, ironmongers. June 11.

Pennington and Middleton, Kendal and Windermere, ironmongers. December 31.

Douglas and Norton, 5, Redcross-street, Bristol, machinist. July 8.

Kaye and Wilson, Staincliffe, Batley, machine makers. June 30. Debts by John Wilson.

Slack, R. and J., Strand, furnishing ironmongers. June 30. Debts by John William Slack.

Tatham, W., and Co., Rochdale, machinists. June 27. Debts by William Tatham.

County Court Judgments.

Cruchley, J. W., 183, Marlboro'-road, Chelsea, ironmonger; £21 3s. 10d. May 26.

Davies, Joesph, 3, Canning-terrace, Addiscombe-road, Croydon, ironmonger; £21 17s. 7d. May 25.

Hammond, M. S., 3, Hainlett-terrace, Anerley-road, Upper Norwood, ironmonger; £15 18s. 10d. May 17.

Hanson, Ann, and Thomas, Main-street, Bingley, near Bradford, ironmongers; £11 15s. 9d. May 17.

Jackson, Wm., 1A, Caroline-street, Eaton-square, sewing machine maker; £16 17s. 4d. May 12.

Nokes, Arthur Frank, 55, Hertford-street, Coventry, tricycle maker; £15 10s. 8d. May 31.

Pope, Thomas, Paignton, Devon, ironmonger; £10 18s. 0d. May 25.

Wells, R., 13, Guildford-street, Poplar, ironmonger; £14 6s 10d. May 30.

Williams, J. S., Market-street, Pontypridd, ironmonger; £18 15s. 3d. May 20.

Jones, Wm., Birmingham House, Conway, Carnarvonshire, ironmonger; £17 2s. 4d. May 28.

Mathew, Harry, Market-place, Settle, Yorkshire, ironmonger; £14 11s. 6d. June 8.

Smith, John, 36, Clifton-street, Cardiff, ironmonger; £13 3s. 6d. June 7.

Symonds, G. B., Potton, Bedfordshire, ironmonger; £19 16s. 9d. June 9.

Tucker, Joseph, 8, Regent-parade, Ventnor, Hants., ironmonger; £17 1s. 0d. June 14.

Billings, Joseph, 1, Clifton-villas, Earlsam-grove, Forest-gate, ironmonger; £14 19s. 6d. June 3.

Collings, George C., Gladstone-buildings, High-street, Aston New Town, Birmingham, ironmonger; £12 4s. 3d. June 2.

Eustace, Robert, Salisbury-street, Blandford, Dorset, ironmonger; £20 2s. 11d. June 1.

Portsmouth, A., Pote-street, Basingstoke, Hants., ironmonger; £37 12s. 9d. June 1.

Williams, John, 19, High-street, Mold, Flintshire, ironmonger; £17 14s. 6d. June 2.

W. HOSIER & CO.,

MANUFACTURERS OF

The Coventry 'Star,' 'Special,' and Champion' Bicycles & Tricycles.

Also Perambulators with Bicycle Wheels.

Largest Dealers in the World in New and Second-hand Machines.

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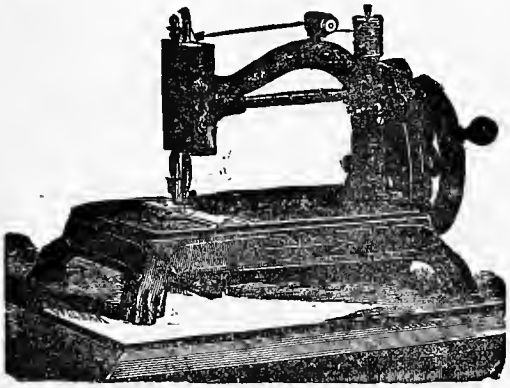

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Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.

IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

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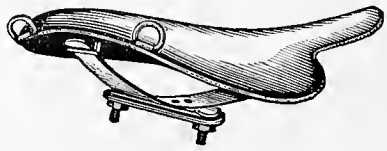

C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

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ALMA STREET,

Aston New Town, Birmingham.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

THE Sewing Machine Trade can now be said to own a better position than it has had for some time past. Such ugly words as "flat," "stagnant," "very depressed," which a year ago characterised this trade, must now give place to the words "steady trade." The public demand for sewing machines, it is true, is not very brisk just now, but then it must be taken into consideration that there is great activity in the clothing and shoe manufacturing trades, and a greater demand for machines for manufacturing purposes is already being experienced, and the shipping trade is now fairly active. Who has been the good fairy that has changed the past miserably depressed state of things into the present brighter scene we will not endeavour to say, as we might thus enter into a discussion beyond the precincts of this journal. We are quite content to accept the good without inquiring too minutely whence it came. Enough that we look upon a much brighter scene; that the latest statistics show an increase in our imports, and that those many failures of small sewing machine dealers which, owing to their frequent repetition, shook even large firms, are now almost agreeably conspicuous by their absence. There is every sign of this revival becoming permanent, and we can congratulate ourselves on better times. Here and there we find a few discontented individuals, but they only represent the grumbling characteristics of John Bull. Of course, everyone knows it is hopeless to look for a return of those palmy days when the sewing machine first came into existence, but still by introducing the newest inventions in domestic labour-saving machinery into their business, sewing machine dealers may do much to ensure themselves a profitable trade.

On every hand we hear of more inventions in bicycles. The steam bicycle is only waiting the decision of the law courts as

to its rights to travel on the roads like an ordinary conveyance, instead of as the law now compels it to be preceded by a man and a flag, like a steam roller, when it will become very quickly popular to those who can afford this luxury. We hear of an electric bicycle, and hundreds of improvements to the ordinary pedal machine. What an immense affair the next Stanley Show will be! One thing is certain; the promoters will have to engage a larger building than the Holborn Town Hall, which they occupied last year.

OUR ILLUSTRATED SUPPLEMENT.

This month shows the latest manufactured of the Remington Type-Writer, which is a No. 2, writing with capital and small letters with the one key-board. It is portable, convenient, and highly finished; the working parts are exposed to view, and it is practically noiseless. Messrs. Bumar and Roberts, of 6, King-street, Cheapside, are the sole agents for the United Kingdom.

The uses of the Type-Writer have been so graphically described, and explanations of the working of the machine so thoroughly given in an article which appeared in the *Times* of April 25, 1876, that it is unnecessary to do more than quote some portions of it, to refresh the memory of those who read it, but which will at the same time be instructive to the uninitiated. "The tendency of the present age is, undoubtedly, to facilitate, and sometimes wholly to supersede, the most delicate and complex manual operations by mechanical appliances. Hence it is, perhaps, not so much a matter for wonder that the art of writing is now threatened with extinction in certain directions, by mechanical agency, the medium being a highly ingenious apparatus, to which the name of the 'Type-Writer' has been given.

"The notion of a writing machine awakened considerable attention in the United States about seven years ago, and the idea having been once started there, several inventors and mechanical men immediately became engaged in the attempt to solve the problem of mechanical writing. The Type-Writer in its present form was perfected in the beginning of 1873, and upon its success being practically demonstrated, Messrs. Remington contracted to make 25,000 of the machines.

"The Type-Writer is about sixteen inches in length, the same in width, and the same in height. On the top of the apparatus is an indiarubber coated roller, termed the paper-cylinder, and at the side of which, and parallel with it, is a small wooden roller. Between these two rollers the top edge of a sheet of paper is inserted, and the cylinder slightly revolved, so that the paper is brought into the proper position to receive the first line of the writing. Immediately under the paper-cylinder, and on a line with its axis, is the ink-ribbon, which is ten yards in length and one and three-eights in width. At starting, the ribbon is wound on to a drum on one side of the machine, from which it is slowly drawn off as the operation of writing progresses, and by the aid of a spring is wound on to a corresponding drum at the other side of the machine, a portion of the ribbon of the length of the paper-cylinder only being exposed to view at one time. Beneath the ink-ribbon is a circular opening, seven inches in diameter. In the case containing the mechanism, and it is at a point precisely in the centre of this opening, that every letter, figure, or character is made to appear in succession to perform the operation of writing.

"The types, which are of iron, and case-hardened, and therefore extremely durable, are fixed in the ends of a series of levers, each having its fulcrum at a point in the circumference of the circular opening. In other words, the type-levers are suspended round the opening in a well, the short arms of the levers being connected with a series of wires communicating with the actuating keys, which are arranged in four rows of eleven each, on a key-board nine inches long and four inches wide, placed in front of the apparatus. A key for forming blank spaces between the words extends along the whole length of the key-board. The machine is worked by both hands, in a manner similar to that in which a piano is played. As each type is raised it strikes the under side of the ink-ribbon, and the form of the letter is transferred to the paper.

"At the same time, and by the means of a coiled spring, the paper and its cylinder are traversed at each touch of the key, from right to left of the machine,—the precise distance required for the next letter to be impressed by the side of the last one. By an automatic arrangement, a small bell is sounded just before the paper-cylinder has finished its lateral travel, which indicates the circumstance to the operator. The last letter in the given line having been impressed, the operator presses a lever placed on the right of the machine, which causes the paper-cylinder and its carriage to be traversed back to the right of the machine, ready for its journey to the left. The pressure of the lever also causes the paper-cylinder to make a partial revolution on its axis, which brings the paper down so as to form the space between the lines of writing.

"With regard to the rate of speed at which the writing can be produced, it is to be observed that the average speed of the pen is from fifteen to thirty words a minute, the average speed of the Type-Writer being in ordinary just double. The uses of this ingenious contrivance are so obvious and so numerous, that we may content ourselves by observing that the only work to which it cannot be applied is that of book-keeping and writing in books. It is very easy to produce copies of the matter written by using the copying-ink ribbon, and copying the writing with the press in the usual way, or by placing several sheets of paper on the cylinder with carbonized paper between every two sheets. In this way a number of copies from two to sixteen can be produced at once. The paper may either be used in sheets or in a continuous roll. The ink-ribbon can be used for several months without requiring re-inking, but when that becomes necessary it can be renewed or re-inked at a trifling cost.

"As an ingenious and practical piece of machinery it is well worthy of inspection by all who are interested in mechanical progress."

FOR SALE, 400 Pendleton Medium Shuttles, made by the late Pendleton Company, in any quantity at 1s. each.—Apply to O. Robinson and Co., Champion Sewing Machine Works, Kettering.

TO BE SOLD CHEAP, about 100 Sewing Machines (Wilcox and Gibbs pattern). Some made to make a stitch 3-8in. long.—For price and particulars, apply O. Robinson and Co., Champion Iron Works, Kettering.

ABOUT 300 Wheeler and Wilson Hooks and other fittings, and about 100 Beds, bored, plained, and cut, and part japanned. Lot to be sold cheap in parts.—Apply, O. Robinson and Co., Sewing Machine Manufacturers, Kettering.

O. ROBINSON and CO., Sewing Machine Manufacturers, Kettering, Makers of the Family and Medium Machine, in any quantity, finished in any style to suit customers. Heads only, or mounted on stands complete. Iron work, suited to the Singer Machine, fitted or unfitted.—O. Robinson and Co., Patentees, Iron and Brass Founders, Sewing Machine Manufacturers, and Engineers, Champion Works, Kettering.

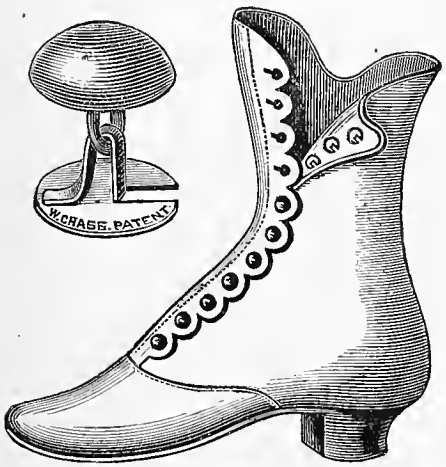
ETON, NEAR WINDSOR.—To be let or sold, House and Shop (good connection for sewing machine business; established 13 years); no premium; rent moderate; immediate possession.—Apply to Messrs. Cartland and Sons, Auctioneers, Windsor.

PARTNER WANTED in a well-established Domestic Machinery Business in a large provincial town. To a steady practical man who can do repairs, this is an excellent opening. Capital required about £200.—Address, A. B. C., *Sewing Machine Gazette* Office, 4, Ave Maria-lane, E.C.

GENERAL AGENT WANTED IN ENGLAND.—A leading German Manufacturer of Oil Cans, of superior quality, for sewing machines, desires to appoint a good Agent for the sale of his goods in England. Those being well introduced in the sewing machine trade should apply, stating references, to B.F., 28, care of Rudolf Mosse, Chemnetz, in Saxony.

THE ACME BUTTON FASTENER.

A glance through the lists of patents that are published in this journal from month to month will show that many scores of inventors have racked their brains to produce some sort of clip or clasp that will securely fasten a button. As a rule, their inventions have been excellent in theory—but in theory only—for when applied to practical use they have found to be either too costly, too intricate in mechanism, or else they have hurt the foot, worn the leather, or torn the lining. These remarks apply to the majority of such inventions. However, perfection as it is possible for a button fastener to be. We have just put on a full set of buttons to a pair of big legged ladies boots in the short space of five minutes. Our illustrations will clearly show the manner in which the fasteners are applied. We need scarcely say that ordinary buttons only are required. The following are the directions for using this invention:—With the stiletto pierce a small hole in the material large enough to allow the shank of the button to go through. Pass the tongue of the patent fastener through the shank of the button, as shown in the cut, Fig. A; then with the reverse end of the stiletto bend back the tongue, as in Fig. B,



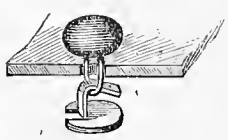


FIG. A

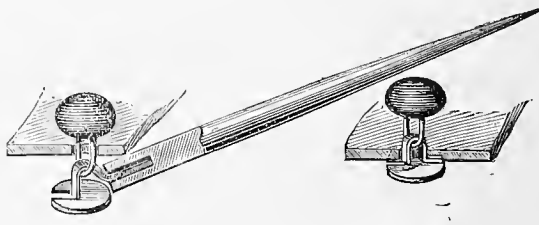


FIG. B

FIG. C

it is only reasonable to suppose that amongst so much chaff there should be a few grains of corn, and, therefore, we may naturally expect to see one or two good button fasteners. We, however, know but one, the Acme Button Fastener, which can be really said to be of practical use to the shoe trade. This invention we described some months ago in this journal, but since then the manufacturers, Messrs. W. Chase and Co., 16, Little Trinity-lane, Upper Thames-street, have made a valuable improvement in it, which now renders it as near and with the thumb and finger press the tongue down on to the disc, as in Fig. C. These fasteners are compactly cased in boxes, each containing one gross, while the "ladies companion boxes" contain 36 patent fasteners and 36 buttons. Steel stilettos are also supplied by the manufacturers. We recommend these to the trade as being extremely cheap, most easily applied, and always firm and secure, and if used will effectually prevent the complaints of the British public that "the buttons are always coming off."

THE "VIADUCT" CHRONOGRAPH.

This Timer, as supplied by Messrs. Thomas Smith and Son, 61, Holborn Viaduct, E.C., accurately indicates minutes, seconds, and quarters or eighths of seconds. It has the advantage over the ordinary centre seconds or stop watches by possessing the very essential fly back attachment, which brings the hands together ready for a fresh start from one point. This special feature at once makes it a desirable possession for timers of races, where false starts frequently occur, as no record of the position of the hands need be taken, which must be done in the ordinary centre seconds watch, where the hands are not made to fly back always to one given point.

The Chronograph Timer is the only instrument made for measuring the eighth part of a second. It is positive in action, substantially made, and does not easily get out of order.

The Split Seconds Timer, intended for registering the time of first and second in a race, is worthy of special notice by all sporting men; the split seconds attachment has till now only been applied to high-priced watches, therefore placing it beyond the reach of many.

It will be found that the "Viaduct" Chronograph combines all that is needful for measuring time exactly to the fractional parts of seconds.

BOARD OF TRADE RETURNS.

The Board of Trade Returns for the month of July, issued on Monday, show no striking results; but they confirm the general impression that trade continues fairly prosperous. The broad features, both as regards the imports and exports, are much as they were a month ago, and are also in close correspondence with the results attained during the first half of the year, when the imports decreased 5¾ per cent., and the exports increased 1½ per cent. The total value of British and Irish exports during July was £20,429,000, compared with £20,270,000 in the corresponding period of 1880, or an improvement of about ¾ per cent. Compared, however, with July, 1879, when the total was £16,611,000; the addition is as much as 23 per cent. In the imports the aggregate last month was £32,151,000, against £33,352,000 in July, 1880, and £30,186,000 in July, 1879. The present figures are, therefore, 3½ per cent. less than those for last year, but 6½ per cent. higher than those for 1879. Among the items on the import side raw cotton and raw silk again show a heavy diminution; but wool, flax, hemp, and wood and timber are higher both as regards quantities and values. Tobacco has conspicuously improved over 100 per cent. In the exports the main feature is an increase in the shipments of iron and steel, amounting to 13 per cent. in quantity, and nearly 7 per cent. in value. Coal and coke have at the same time improved 7 per cent. both as regards bulk and price.

FREE TRADE AND RECIPROCITY.

A few days ago Mr. John Slagg, M.P., for Manchester, delivered an interesting address on the above subjects to the members of the Penge and Anerley Branch of the East Surrey Liberal Association. In the course of his remarks he said: The negotiations now in progress for the completion of a new commercial treaty with France, have called special attention to the subject of our trade relations with foreign countries, and, doubtless the irritation caused by the attitude now assumed by France in this matter has helped to raise the clamour for the reimposition of import duties by this country from its normal condition of a slumbering heresy into the active form of a public agitation. I will attempt to tabulate, as well as I can from the confused and conflicting expressions of these retrograde economists, some statements as to the objects they have in view, and their method of obtaining them. We are told, then, that the course they advocate is good for the purposes of revenue; secondly, that it will protect and foster our own industries; thirdly, that it is useful to coerce foreign nations into granting us more liberal terms, or to punish them if they exclude our trade; and, further, this policy is commended on the ground of its adoption by foreign nations, and the success which is said to attend its practice. Firstly, as to the benefit of a protectionist system to the revenue. Of course, the revenue of a country must be raised in some way or another, and so long as our expenditure is of such enormous magnitude, the problem of raising it is becoming greater every day. You will all admit that taxation in any form is a burden on the people. For with every shilling which a man pays in taxes he might make some useful purchase, or add to his accumulated wealth. Thus the duty of the Government is not only to render taxation as light as possible, but to collect it in the cheapest possible way. You will also admit that any process which makes an article artificially dearer is to that extent a deterrent to its purchase; and if that article be a raw material of manufacture, or a first necessity of life, any addition to its cost would react directly on the price of production, the rate of wages, or the cost of living, causing a limitation of trade and an advantage in favour of our industrial rivals. Let us briefly examine the operation of Custom duties, which find so much favour in foreign countries, and to which we are asked to revert in England, because, we are told, they are successful in increasing the revenue of a country. The same cry was in fashion before the repeal of the corn laws, and for the benefit of those who have not lately studied the operation of the policy then adopted, I will briefly attempt to show that it is not the high but the low duty which produces the greater revenue; and nations who still think that by reducing their Customs duties they will decrease their revenue may take heart from the experience of this country since 1840. The aggregate loss of revenue from repeal or reduction of our duties between 1840 and 1879 amounts to more than £30,000,000, and yet we are enabled to draw almost as much revenue from our Customs in 1879 as we were in 1840! Our export trade rose from the almost stationary sum of £51,000,000 in 1840 to the enormous total of £256,000,000 in 1872, and though our exports to-day show some decline on that extraordinary sum, yet it is only the value, and not the actual quantity of goods, which has sensibly diminished. How do we compare with protectionist countries in the matter of revenue from Customs duties? I find that Great Britain stands only second on the list. The United States, with her enormous tariff duties, receives £26,000,000 from this source: Great Britain, £20,000,000; France, £10,000,000; whilst Germany and Prussia follow with £5,000,000 each. With this experience before us, how it can be urged that there is any better method of raising revenue and of increasing our trade than by giving to commerce the utmost freedom is to me incomprehensible. Indeed, instead of more duties being required, we stand in need of greater freedom from them, nor can we justly describe ourselves as a free-trade country so long as we raise half our revenue by Customs and Excise; for we must remember that every tax on wine, tobacco, or tea, imposes a restriction on the buying powers of the nations who supply us with those articles, and the more we can take from other countries the more they will be able to buy from us. But I shall be told it is of little use to decrease the cost of our productions, or incidentally to increase the buying powers of the foreigner, unless he will undertake to purchase our products, and that a free trade which is only one-sided must operate disadvantageously upon those who adopt it; further, that as the foreigner will not buy our cheap goods when we offer them to him, we must protect our own producer from the incursions of his foreign rivals. I observe that one of the favourite methods of increasing our revenue and protecting our producers, is based on a proposal to impose duties on foreign corn; and I must unhesitatingly admit that, if the protectionist doctrine can hold good at all, it would apply in the strongest degree to the industry of agriculture, which labours in this country under such crushing burdens. Commerce, as I have pointed out, is comparatively free; but agriculture is handicapped in every direction. It has been seriously affected by a number of bad seasons, whilst the feudal trammels which now lay such a heavy hand on its development, constitute an artificial tax on all engaged in it; and until the land is freed, both as to the power of selling and transfer, and our system of tenure thoroughly reformed, the responsibility for ruinous farming must continue to lie at the doors of the Legislature, and the people who permit the grave abuses of our present system to continue. Thus there is more reason in the cry for protection when it comes from agriculture than when it issues from other quarters, and if we would relieve ourselves of responsibility in this matter we must strive to effect a complete reform in the land system of this country. But in respect of the legal and constitutional burdens imposed upon land, we are no worse off now than we were in the day of the corn duties; and did protection on corn ever improve the trade of the farmer, or ameliorate the condition of the labourer? It is matter of surprise to me that anyone of reading and experience on these questions should attempt to restore a system which has been so thoroughly tried and found wanting in the past; and I challenge any one to show that an import duty on corn ever contributed one farthing to the prosperity of agriculture, the profits of the farmer, or the wages of the labourer. If you will look back to the thirty years during which the corn laws were in operation, you will find that agriculture was miserably depressed, and that no less than five Committees of the House of Commons were appointed to investigate the causes of its misfortunes. Finally, the farmers became the most ardent opponents of those laws, for they discovered that protection did nothing more than increase the rents of the landlords; and when our landed gentry and aristocracy vaguely hint that a recourse to protection would be good at the present time, what they really mean is that it might be good for them; and the land system having absolutely broken down, their only method of saving themselves and avoiding pressing reforms is to go round with the hat to all the poor folk in the country to keep the present system on its legs. It is strange to find so many economists of the reciprocity type regarding with gloomy forebodings the relations of our imports and exports. They seem to hug the conclusion that it is an unfavourable sign for the trade of a country when its imports are largely in excess of its exports. Such misgivings could only be justified by the old and long since exploded theory of the "balance of trade," which embodied a delusion that a country is rendered poorer by the money which is exported from it, and under which it was thought favourable to increase exports and discourage imports, in order to limit as much as possible the amount of money sent out of the country. Whether we are paid in money or in kind for our imports must amount to the same thing in the end. The money we export must have been paid us by someone, as we do not command a natural production of the precious metals; and it is impossible to demonstrate the exact relations of trade movements unless we could produce a balance sheet showing our relations with all foreign nations, our investments in their public and private securities, &c. Further, if we export goods to America, we must, in order to make a profit, get more back than we send; and if £100 worth of coals from this country are exchanged for £200 worth of corn we surely cannot complain of the bargain. But it will be said we must tax only luxuries, for few would think of reimposing the corn laws, or making raw materials of manufacture dearer. Even France receives raw cotton without a duty.

These articles of raw production, however, constitute nearly 91 per cent. of our imports, leaving only about 9 per cent. to be dealt with in this way, and even this would be somewhat reduced, for many of our manufactured or semi-manufactured goods are used by our industries in their various processes. Therefore the amount left to work upon, taken in relation to the enormous relative cost of collecting small Customs duties, the army of Custom House officers, and establishment expenses, we should find that such a game would hardly "pay for the candle.' Nor would it be possible to single out any one country for treatment of this sort. Though we may receive certain goods from France, we cannot be sure that they are produced there. They may only come to us through that country from Belgium, Switzerland, Germany, or other parts of the Continent; and, as it would be impossible to demand certificates of origin in all this multitude of transactions, no other course would be left than to apply a uniform duty to all foreign nations alike. Now let me deal with the favourite suggestion of an import duty on silk. No doubt such a duty would greatly limit our imports of that article from France. Unless you impose this duty, however, equally on all silk-producing countries, the French importer would pass his shipments through some other country; and if a duty were imposed on all foreign silks the cost of the article to the English consumer would be increased by the amount of the duty. It might be argued that this advance in prices would be distributed amongst the manufacturers and operatives, and an improvement in trade thus secured. But any increase in the profit thus obtained by the manufacturer would at once attract a larger amount of capital to the industry, and the competition for the trade would speedily reduce its returns to the normal level. Thus the consumer would be fined, whilst the manufacturer would receive no benefit. But it is vain to suppose that the process of taxing imports would be allowed to rest at this point. Other industries besides that of silk complain of the influence of foreign competition. The operatives in the cotton, iron, and woollen industries would soon insist on a share of the general protection, and parliamentary elections would speedily be influenced here, as they unhappily are in America, by considerations of tariff advocacy and the claims of special trading interests to the benefit of State aid. We cannot, therefore, depart in the slightest degree from our principles of free trade without opening the door to a complete reversal of our present system. I can foresee no end to the progress of such a movement, but a complete policy of restriction in every department of our trade. Is there any reason to believe that the commercial system in France is operating beneficially on her principal industries as shown by her export operations? I find from a parliamentary return, just published, that in 1859 cotton manufactures exported from France amounted to £2,600,000, whilst in 1879 their exports were £2,500,000; while the exports in 1859 in England were £38,700,000, and in 1879, £51,000,000. Even the French export of silk manufactures had declined from £20,000,000 in 1859 to £9,000,000 in 1879, whilst our exports of that article have somewhat increased during the same period. It is probable that the falling off in French silk exports is due, in some degree, to a change of fashion, the fine woollen fabrics of that country having to some extent taken the place of silk; but there is no reason whatever to suppose that the woollen fabrics which are now supplied to us from France cannot be made as well in England. The French have paid special attention to this manufacture in preparing and spinning their wools, and we must follow suit. Indeed, I have heard of one manufacturer who, having copied the French process, can now unsell the French "makes" in their own country, even with the addition of duty. Though some French industries have developed of late, they are far from being able to beat our own. If they were able to do so they would appear as rivals in neutral markets, where all pay alike; but, as a matter of fact, no such rivalry seriously threatens us. For the benefit of those who think that protection has succeeded in America, I will quote a few words from the writings of Mr. Ecroyd, M.P., who, with some appearance of inconsistency, advocates at least a partial recourse to that system in England. Writing of the visits of our artisans to that country in search of better employment, he says:—"Many have returned from America during the past five years, disgusted with the extremes of the climate, the mode of living, the inordinate power wielded by great trading and carrying corporations, the lax enforcement of laws, and the rigid party organisations which trample down individual liberty of opinion. For true comfort and true liberty they infinitely prefer their native country." What is a commoner sight in our large manufacturing towns than that of workmen who, having tried America, are glad to exchange the blessings of protection for the hardships of free trade? Do the rate of wages in America and the cost of living offer any encouragement for the adoption of her commercial system? Men talk and write glibly of the extreme occasional depression and great fluctuations in the industries of this country; but there is nothing of the sort in America and in France? Why, the smallest inquiry into this subject will show that leading industries in America are periodically driven to the point of destitution, and that even the enormous advantage afforded by their protective duties does not save manufacturers from the necessity of exporting their productions for the purpose of realising at any price in foreign markets—a fact which is largely responsible for the popular impression about competition of American manufacturers in England. With her vast natural resources, America has got on pretty well in spite of protection; but her commercial system will inevitably one day produce great evils, and is already tending to create pauperism, a condition which ought never to show its front in a country so largely endowed with all the means of producing wealth. Does protection succeed in France? One would suppose not, judging from the Parliamentary inquiries which are constantly in progress there for the purpose of ascertaining the causes of commercial depression; and it is amusing to find these inquiries almost invariably attributing the sufferings of French commerce to the influence of foreign competition. Thus, we have no monopoly of the foreign competition grievance, for I find it chronic in all protectionist countries, with or without evidence, and ever ready as a plea for still more protection, which, however, never did, and never will, cure the evils complained of. We hear very little in this country of troops of workpeople marching about French towns demanding either work or bread. Surely these things should not be in a land so largely blessed by protective tariffs. In my opinion, there is a day of heavy reckoning in store for those Governments who try to rob the people for the benefit of a class. Taxes so levied are only permitted because their influence is not thoroughly understood; but the evil consequences of the system are nevertheless felt, creating a sentiment of discontent and hardship amongst the poorer classes, and providing the elements from which Socialism and revolution are evolved. Now, as to coercing foreign countries who deal with us, by imposing duties on our imports from them, I have tried to show that whatever merit such a process might have as a form of commercial "revenge" or "retaliation," it could by no means be profitable to us, and it must continue to be a matter of opinion as to the amount of suffering and expense we are justified in imposing upon ourselves in order to mark our disapproval of the economical fallacies of other countries. Mr. Bonamy Price has remarked that, though retaliatory duties cannot be economically profitable, they may nevertheless be adopted as a warlike procedure; and there is no doubt whatever that by refusing to receive certain products of French industry we might deal a sore blow to the trade of that country; but I have already shown that such an attempt would not end with France, who is not the greatest offender in this matter. We should be driven step by step into a general warfare of tariffs, and I ask you: Does the past experience of commerce encourage us in such a line of policy, or could we ever afterwards urge with consistency the adoption of a more liberal commercial policy on the part of other nations, when we had thrown to the winds our own convictions, and denounced the principles which have made this country the greatest trading nation in the world? I regard it as most unfortunate that at the present time any persons of influence and position think it consistent in the same breath to invite concessions from France on her present tariff duties, on the ground that they will be beneficial both to herself and her neighbours, and yet hold over her the threat that if she does not comply with this request we must adopt the very policy which we condemn as antagonistic to our own commercial interests.

HINTS ON REPAIRING THE SEWING MACHINE.

By Cogwheel in the *Sewing Machine News*.

Years ago, when the sewing machine business was in its infancy, and but few kinds of machines were upon the market, the adjusting and cleaning were done by the agent. The only tools used were the screwdriver and the wrench. But now, since the business has become extensive in its application, and its different branches occupy so large a space in our manufacturing industry, when almost every family in the land owns a sewing machine of some kind, and the wear and tear upon it is continually going on, some needing cleaning, some adjusting, some bushing, and some requiring to go through a general repairing, it is evident that the business will in a few years be one of the leading trades, and that it will need special tools and a widely extended knowledge of sewing machines for carrying it on successfully. It will require careful study and observation, and must be learned by actual work, the same as any other trade. While it is not within reason that any one person can be capable of going into the business without some experience, yet it does not follow that the sewing machine man who puts the sign over his door, "Sewing Machine Repairing," must necessarily be a practical machinist to be a good adjuster or repairer, for some of the best repairers of this country are of a class of men who picked the business up while in their capacities as workers, agents, or teachers.

The "Hints" for this month are intended for the guidance and assistance of those who are located in small towns, and who have no new parts on hand or within reach at the time needed—a class already very numerous, and getting more so every day, and to whom I hope the following instructions will prove useful:—

The sewing machine that has been used for ten or more years, when brought to the shop for repairs, is generally so much worn that to make it do good work new pieces must be put in, or bushing must be resorted to.

The holes or bearings of journals, shafts, &c., through which they work, when worn, usually require bushing; and every repairer has his own way of taking up loose motion in bearings, but I believe the following to be the easiest and quickest plan:

Drill six or more pin-head holes around the hole of the shaft bearing, about an eighth of an inch from the edge, and about the same depth, according to the diameter of the hole, then slip in the shaft and tap gently each hole with a centre-punch, and you will find the hole will conform to the shaft.

To take up the lost motion in band wheel, drill two holes about a fourth of an inch through the journal in opposite directions; heat red hot, drive a tapering punch through the holes until it swells to the required size. Another plan is to ream out the outer end of the journal-hole of the wheel in the same manner as if you were going to put in one of the patent journals; then fill with melted lead or babbit metal, and smoke the journal; this insures its coming out of the hub easily after it is cold. To make the metal fill every time, it is necessary to heat the hub very hot, or at least hot enough almost to melt the metal. I have seen repairers fit needle-bars in by this plan, and they would work satisfactorily.

Holes worn too large in iron or steel parts can be closed by using a round-faced hammer on a planished surface.

It is sometimes necessary to repair broken cast-iron parts, or to attach a piece to them. As you are aware, solder will not stick to cast-iron, and I think the following a good plan to make it stick: Drill as many holes into the cast-iron as you think necessary; force brass wire into the holes and cut them off even with the surface; then the solder will stick, and you can make a perfect joint. Although the solder has no affinity for the cast-iron, it has for the brass wire.

Almost any round or square piece can be dovetailed; but drilling can be done much more quickly. Some repairers, when they find any small bearing or hole very much worn, ream out the whole to a larger size, and fill it entirely up with a plug, then braze or solder it in by sweating, and finally drill out the desired size hole. To do this kind of work, the repairer should have a good force or ratchet drill. Treadle and the pitman connections can be filled up and drilled out very easily, and also the hubs of band wheels. Cross-pins can be used for taking up the lost motion in the eyes of wooden pitman-rods. I would advise the apprentice to give a little of his time to the study of instruction on this subject; he will find in almost every town some person capable of giving such information. There is hardly any subject upon which the most of the repairers have as little correct information as upon the subject of bushing.

I have been brief in my remarks upon some of the points, yet I have given all the knowledge necessary for the beginner to make the start. At some future day I will give some other methods adopted by the repairer.

ASBTRACT OF SPECIFICATIONS RECENTLY PUBLISHED.

(Abstracts marked * relate to applications not proceeded with.)

3774. Self-Acting Needle for Knitting Machines: F. W. Schwarzbach, Naumburg-on-the-Gaale, Prussia. [6d. 20 Figs.]—The improved self-acting double-knitting machine needle is formed of two separate parts. The lower part is made of a flat or square bar of metal and is provided with a hook at its forward end. This hook is made longer than its height. The forward end of the lower part is provided on its upper surface with a groove, part of which is rectangular. The upper or loose part of the needle is arranged to slide along the lower part and is also formed of a rectangular rod, part of the under surface of which has been cut away to diminish its sliding surface. The front end of the upper bar is bent downward to catch in a groove in the upper surface of the needle, and when moved forward will strike against the angular point of this groove. (September 17, 1880.)

4634. Open Fireplaces: J. Jobson, Derby, [8d. 17 Figs.] —There are three ways of escape for the smoke: (1) the ordinary one to the chimney; (2) a passage leading from the upper part of the back of the fireplace downwards; and (3) an opening just above the level of the bars. If the top is closed the smoke will be mostly drawn down through the fire towards the lower opening, where it will be met by air, which has entered the middle opening, and been heated in its passage down the back of the fireplace and will be consumed. (November 11, 1880.)

4697. Ribbing Apparatus for Knitting Machines: W. H. Beck, London. [6d. 6 Figs.]—Relates (1) to the employment in knitting machines of a pillar secured to a fixed part, and carrying an adjustable arm, the whole being so constructed as to hold the ribbing apparatus in the required position over the needle cylinder. (2) To the employment of a double socket piece with lock nuts and set screws whereby the arm can be adjusted in all directions in relation to the needle cylinder. (3) To an index finger or arm fixed on the upper end of the spindle of the needle plate for adjusting the needle plate on its centre, and for holding it circumferentially. (4) To a ribbing apparatus, considered as a whole, independent of the cam cylinder except as regards the transmission of motion therefrom to the cam plate. (November 15, 1880.)

4703. Twisting or Doubling Machines: J. E. Heppenstall, Milnsbridge, Yorks. [4d. 2 Figs.]—To save time in doffing the ring rail is lowered before the full bobbins are removed, so that the yarn is lashed a few times round the spindle below the braid. When the empty bobbins are put in their places the ends are ready to take round them as soon as the frame starts. (November 15, 1880.)

4704.* Burners for Lamps: F. Rosenthal, London. (M. Berger, Breslau). [4d. 5 Figs.]—Air is admitted into the interior of the wick tube, which is circular, through apertures in the base of the lamp, and is brought into contact with the flame by a circular deflector plate situated horizontally a little above the upper edge of the wick. (November 15, 1880).

4761. Domestic Grates and Stoves: H. Thompson,

London. [6d. 8 Figs.]—In replenishing the fire the incandescent mass is first raised by the introduction of a flat plate, and then the fresh fuel is placed on the bars and the hot coals allowed to fall back upon it. (November 18, 1880.)

4766. Locks and Keys: T. E. Julian, London. [6d. 20 Figs.]—It is stated that exigencies of the doors of an ordinary house require eight different patterns of locks, and the object of the invention is to produce a lock that shall fulfil the whole of the conditions usually found by itself. The details of the mechanism are somewhat too minute for description here. (November 18, 1880.)

4767. Tricycles, Bicycles, &c.: H. Weatherill, Manchester. [6d. 23 Figs.]—Has reference to the axles and bearings, and comprises means for keeping the wheels in position, dust caps, split bearing bushes, conical friction brakes, driving clutches, and foot brakes. (November 19, 1880.)

4498. Treadles for Sewing Machines: R. Steel, C. H. Binns, A. Steinmitz, C. A. Spring, and W. A. Nichols, Philadelphia, U.S.A. [6d. 7 Figs.]—The treadle is hinged to the underside of the table, and is provided with a spring which tends to keep it at the forward end of its stroke. (November 3, 1880).

4849. Cooking Apparatus: L. W. Leeds, London. [6d. 6 Figs.]—The apparatus is intended for cooking by direct radiation. The grate is very shallow, and is backed with firebrick. The flue leads out of the back of the fire so as to cause the draught to pass through the burning fuel. (November 23, 1880.)

4826. Machines for the Manufacture of Heels for Boots and Shoes: S. H. Hodges, Street, Somerset. [6d. 2 Figs.]—The boot is placed on a last in front of a vibrating hammer, and the sides or edges of the heel are planished to fill up the spaces between the different layers of leather. (November 22, 1880).

4829. Bicycles, &c.: H. Hayward, Gloucester, and J. Day and J. H. Gosling, Southsea. [6d. 3 Figs.]—The wheel is driven by multiplying gear in the hub of the wheel. (November 22, 1880).

4872*. Combined Cabinet and Musical Instrument, &c.: A. King, London. [2d.]—The musical box is built into any convenient recess in the cabinet. (November 24, 1880).

4873. Bicycles and Tricycles: T. J. Palmer and C. F. Dieterich, London. [6d. 5 Figs.]—The speed of the machine is increased by the use of gearing carried within the hollow boss of the wheel. (November 24, 1880).

4878.* Silent Mincing Machines: J. Marshall, Glasgow. [2d.]—The invention deals with nearly all the details of the machine with the view of increasing their efficiency. (November 24, 1880.)

4888.* Washing Machines: A. C. Collings and F. Bryant, Wimbledon. [2d.]—The clothes are acted upon by a number of inclined slates moved by a rocking frame. (November 24, 1880.)

4923.* Sewing Machines: L. Silverman, London, and J. R. Cumming, Little Ilford, Essex. [2d.]—The invention, the exact object of which is not stated, appears to comprise new mechanisms for sewing machines, but in the absence of drawings cannot be clearly understood. (November 26, 1880).

4929. Knife-Cleaning Machine: T. S. Lyon, London. [2d.]—The knives are cleaned between two endless travelling hands supplied with emery. (November 26, 1880.)

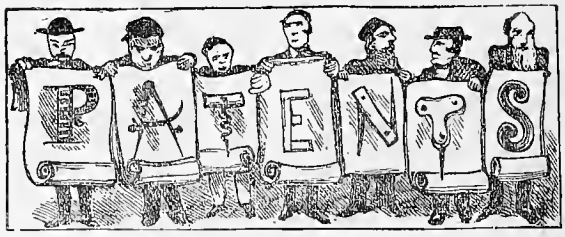
4934.* Self-Acting Needles: W. Tatham, Ilkeston. (J. A. Deslongchamps and Co., Puteaux, France.) [2d.]—These needles appear to be intended for use in stocking frames. In one modification the stem of the needle is hooked at one end, and has the opposite end turned up or down at a right angle to the stem, but in a line with the bend of the hook. The stem is grooved, and in the groove there slides a covering point, the end opposite to the point being turned up at a right angle, and forming the portions whereby the point is caused to slide in the stem, so as to cover or uncover the hooked end. (November 27, 1880).

4935.* Kneeler and Bucket Stand for Servants, &c.: J. Northwood, Wordsley, Staffordshire. [2d.]—Both the kneeler and stand are set upon wheels, so that the user can scrub the whole floor without rising to move the various appliances. (November 27, 1880.)

4937. Apparatus for Heating Water, Mulling Beer, &c.: B. J. Grimes and L. Dove, London. [6d. 1 Fig.]—The apparatus consists of a jacketted urn. Within the jacket hot water from a gas-heated boiler situated in another apartment constantly circulates. (November 27, 1880.)

4944.* Gas Stove: S. Smith, Croydon. [4d.]—The gas and air is mixed in a vessel of wire gauze and burnt on its upper surface. (November 27, 1880.)

1169. Saddles of Bicycles, &c.: W. R. Lake, London. (C. H. Veeder, Plattsburg, N.Y., U.S.A.) [6d. 17 Fig.]—Is for arrangements of spring saddles. (March 17, 1881.)



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 2,125. H. Fricker, of Great Portland-street, London, for improvements in plaiting machines. Dated May 28, 1878.

„ 1,575. W. Taylor, of Great Driffield, Yorkshire, Sewing Machine Manufacturer—partly a communication from J. H. R. Dreyer and H. Shipmann, both of Hamburg, Germany, for improvements in sewing machines and in shuttles for the same. Dated May 4, 1878.

„ 1,633. D. Mc C. Smith, of Lynn, Massachusetts, United States, for improvement in feed motions for sewing machines. Dated May 8, 1874.

„ 1,635. G. W. Elliott, of Birmingham, Engineer, for improvements in sewing machines. Dated May 8, 1874.

„ 1,884. J. Higgins, Machine Maker, and T. S. Whitworth, Manager, both of Salford, Lancashire, for improvements in machinery or apparatus for preparing cotton and other fibrous materials for spinning. Dated May 29, 1874.

„ 2,390. W. A. Lake—a communication from A. K. Hebard, of Cambridge, Massachusetts, United States, for improvements in pianofortes. Dated May 31, 1881.

„ 2,424. G. F. Elder, of Lochee, North Britain, for improvements in overhead sewing machines. Dated June 2, 1881.

„ 2,428. J. Hargrave, of Burley, Leeds, Gentleman, for improvements in machinery or apparatus for cleaning and polishing knives. Dated June 2, 1881.

„ 2,432. T. G. Wells, of Birmingham, Perambulator Manufacturer, for improvements in and relating to perambulators. Dated June 2, 1881.

„ 2,447. W. R. Moss, of Bolton, for improvements in machinery for combing cotton and other fibrous substances. Dated June 3, 1881..

„ 2,469. C. Pieper—a communication from E. Brüncker, of Cologne-on-the-Rhine, Prussia, for improvements in lock-stitch sewing machines. Dated June 7, 1881.

No. 2,481. W. R. Lake—a communication from E. Harris, Manufacturer, and A. W. Harris, Merchant, both of Providence, Rhode Island, United States, for improvements in and relating to machinery for spinning fibrous materials. Dated June 7, 1881.

„ 2,485. P. Smith, junior, Machine Maker, and S. Ambler, Draftsman, both of Keighley, Yorkshire, for improvements in spinning and twisting machinery. Dated June 8, 1881.

„ 2,516. J. Brentnall, of Mansfield, for new or improved jacquard machine or mechanism, for producing in fabrics ornamentation of various kinds, for hosiery and other purposes. Dated June 9, 1881.

„ 2,517. J. Imray—a communication from La Société les Fils deCartier Bresson, of Paris, for an improved appliance for winding and holding tape. Dated June 9, 1881.

„ 2,546. H. J. Haddan—a communication from M. I. Lecoeur, of Darnetal, France, for improvements in sewing machine gearing. Dated June 11, 1881.

„ 2,556. J. Carroll, of Bradford, for improvements in combing machines. Dated June 13, 1881.

„ 2,565. E. J. Lewis, of Reading, Watchmaker, for improvements in tricycles andother velocipedes. Dated June 13, 1881.

„ 2,568. F. E. A. Busche, of Schwelm, Westphalia, Germany, for improvements in apparatus for regulating or governing the patterns of work to be produced in braiding and other like machines. Dated June 13, 1881.

„ 2,584. H. J. Haddan—a communication from J. B. Prevost, of Brionne, France, for improved coverings for rollers, used in spinning machinery. Dated June 14, 1881.

„ 2,603. J. Clough, of Grove Mills, near Keighley, Spinner, for improvements in the washing of wool and other fibres. Dated June 15, 1881.

„ 2,613. A. L. Bricknell, of Water-lane, Brixton, London, Engineers, for improvements in velocipedes. Dated June 16, 1881.

„ 2,631. E. and T. A. Underwood, both of Birmingham, for a distance indicator for bicycles and similar machines. Dated June 16, 1881.

„ 2,632. N. Fraser, of Arbroath, Forfar, North Britain, Manufacturers, for improvements in plaiting fibrous or other flexible materials, such as strands, threads, yarns, slivers, bands, or wires, and in machinery therefor. Dated June 16, 1881.

„ 2,680. L. H. Pearce, of Hammersmith, London, for improvements in monocycles or one-wheel velocipedes. Dated June 18, 1881.

„ 2,690. E. P. Alexander—a communication from G. C. Desprin, of Pujols-de-Libourne, France, for improvements in clamps for sewing machines and other machines of like character. Dated June 20, 1881.

„ 2,706. W. P. Thompson—a communication from M. F. Sallad, of New York, United States, for improvements in fixing and finishing the folds of plaited fabrics, and in apparatus or machinery therefor. Dated June 20, 1881.

„ 2,720. J. Petrie, of Rochdale, Machine Makers, for improvements in machinery or apparatus for washing or cleansing wool and other fibrous materials. Dated June 21, 1881.

„ 2,722. W. R. Lake—a communication from G. W. Copeland, of Boston, Massachusetts, United States, for improvements in wax-thread sewing machines. Dated June 21, 1881.

„ 2,737. W. Riley, Mechanic, of Keighley, and J. Riley, Mechanic, of Bradford, for improvements in spinning. Dated June 22, 1881.

„ 2,755. J. Sefton, of Belfast, Ireland, Mechanical Engineer, for improved "drives" for sewing machines. Dated June 24, 1881.

„ 2,757. J. and T. A. Boyd, of Shettleston, Lanarkshire, for improvements in machinery for winding, doubling, and twisting yarn or thread. Dated June 24, 1881.

„ 2,773. A. M. Clarke—a communication from P. Townson, of Thompsonville, Connecticut, United States, for improvements in spinning and twisting machinery. Dated June 24, 1881.

No. 2,812. T. J. Denne, of Red Hill, Surrey, for improvements in sewing machines for ordinary and button-hole stitching. Dated June 27, 1881.

„ 2,832. F. A. K. Cook, of Londonderry, Ireland, for improvements in smoothing irons. Dated June 28, 1881.

„ 2,856. L. A. Groth—a communication from W. Schmid, of Pallazzolo sul'Oglio, Italy, for improvements in spindles for doubling machines. Dated June 30, 1881.

„ 2,890. W. A. Barlow—a communication from L. Naudin and J. Schneider, both of Paris, for a new or improved method of bleaching animal and vegetable fibres and textiles. Dated July 2, 1881.

„ 2,892. A. Barker, of Leeds, for improvements in scrbbling and carding machinery. Dated July 2, 1881.

„ 2,895. G. Lowry, of Salford, Engineer, for improvements in tricycles, bicycles, and other wheeled conveyances. Dated July 2, 1881.

„ 2,903. G. B. Lovebee, of Birmingham, Manufacturer, for improvements in perambulator and other wheels having metal spokes, and in grips for adjusting such spokes. Dated July 4, 1881.

„ 2,917. G. W. von Nawrocki—a communication from A. Englisch, of Basle, Switzerland, for an improved construction of thread bobbins or winders for sewing machines and other purposes. Dated July 4, 1881.

Letters Patent have been issued for the following :—

No. 5,187. J. Summerscales, of Keighley, Machine Maker, for improvements in washing and wringing machines. Dated December 11, 1880.

„ 5,255. J. B. Farrar, of Halifax, Machine Maker, and W. Lumb, of Mytholmroyd, near Halifax, for improvements in machinery employed in spinning and twisting wool and other fibres. Dated December 15, 1880.

„ 5,369. A. Smith, of Bradford, for improvements in combing machinery. Dated December 22, 1880.

„ 5,410. W. Hillman, of Coventry, Machinist, for improvements in velocipedes. Dated December 23, 1881.

„ 5,413. H. H. Andrew and W. Lockwood, both of Sheffield, for improvements in the construction of metallic frames for washing and wringing machines, chaff and turnip cutters, and other similar frames. Dated December 23, 1880.

„ 5,418. R. M. A. Duguid—a communication from S. S. Herring, of Liberia, Africa, for a new or improved process of obtaining fibrous material from a palm tree. Dated December 24, 1880.

„ 5,508. W. Fox and J. Hall, of Leeds, for improvements in machinery or apparatus for preparing and feeding fibrous substances on to scribbling and carding machines. Dated December 31, 1880

„ 43. A. Watt, of Lewisham, Kent, for a new compound for washing and cleansing purposes, and apparatus to be used in its manufacture. Dated January 4, 1881.

„ 49. W. R. Lake—a communication from Messrs. Gourdiat, Frères, of Earare, France, Manufacturers, for an improved cloth-stretching or tentering machines. Dated January 4, 1881.

„ 61. J. Holden, of Swindon, Wiltshire, Engineer, for improvements in the method of actuating sewing machines, applicable to lathes and other machines, for starting, stopping, and regulating, or governing the speed thereof. Dated January 5, 1881.

„ 105. J. Whittingham, of Willaston, Nantwich, Cheshire, Engineer, for an improved mop wringer. Dated January 8, 1881.

„ 208. R. W. Morrell, of Bradford, Merchant, and J. Shaw, of Belle Isle Dye Works, Wakefield, Dyer and Finisher, for improvements in machinery or apparatus for preparing, scouring, crabbing, steaming, tentering, drying, and finishing textile fabrics. Dated January 15, 1881.

„ 282. E. R. Settle, of Coventry, for improvements in or

appertaining to velocipedes. Dated January 22, 1881.

No. 336. M. Gandy, of Liverpool, for an improved mechanical motion for imparting intermittent rotary action, particularly applicable as a feeding gear for sewing machines, also applicable otherwise. Dated January 25, 1881.

„ 367. J. H. Johnson—a communication from V. G. Jarion, of Lille, France, for improvements in apparatus for starting, stopping, and regulating the motion, of sewing, embroidering, pinking, and other machines or apparatus. Dated January 27, 1881.

„ 618. W. H. J. Grout, of Watson-street, South Hornsey, London, Engineer and Bicycle Manufacturer, for improvements in obtaining and applying motive-power to velocipedes, and in appliances therefor. Dated February 14, 1881.

„ 729. G. G. M. Vernum, of Birmingham, Mechanical Engineer, for improvements in bicycles and tricycles and other velocipedes. Dated February 19, 1881.

„ T. Humber, T. R. Marriott, and F. Cooper, all of Beeston, Nottinghamshire, Bicycle Manufacturer, for improvements in the construction of wheels for bicycles and other vehicles. Dated March 2, 1881.

„ 1,108. G. W. von Nawrocki—a communication from R. Sehrke, and Messrs. Büldge and Kildebrandt, all of Berlin, for improvements in cop spindles and appliances connected therewith, for continuous spinning machines. Dated March 15, 1881.

„ 1.478. W. Mather, of Manchester, Engineer, for an improved method of and apparatus for cleansing, washing, dyeing, bleaching, soaping, and otherwise treating woven fabrics. Dated April 5, 1881.

„ 1,532. W. Graham, of Monk Bretton, Yorkshire, Smith, for improvements in swifts, or apparatus for holding banks of worsted, cotton, linen, or other kinds of yarn or thread whilst being unwound. Dated April 11, 1881.

„ 1,583. J. H. Johnson—a communication from C. H. Willcox, of New York, and J. E. A. Gibbs, of Steele's Tavern, both in the United States, for improvements in sewing machines. Dated April 12, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 2,249. W. Hillman, of Coventry, Machinist, for improvements in bicycles and other velocipedes. Dated June 5, 1878.

„ 2,258. W. Morton, of Edinburgh, for improvements in bicyles. Dated June 6, 1878.

„ 2,259. W. Cochrane, of Glasgow, Pattern Designer, for improvements in apparatus for hot pressing woven fabrics. Dated June 6, 1878.

„ 2,268. J. Fraser, of Perth, and J. Ower, of Swan-street, Minories, London, for improvements in sewing machines. Dated June 7, 1878.

„ 2,063. S. C. Lister, of Bradford, Manufacturer, for improvements in preparing and combing silk waste and other fabrics. Dated June 13, 1874.

„ 2,104. J. B. Whiting, of Broomfield, Chelmsford, Essex, for an improved hot-air stove for warming and ventilating. Dated June 17, 1874.

„ 2,188. A. M. Clark—a communication from E. Baillet, of Paris, for an improvement in papering or making up pins. Dated June 23, 1874.

Specifications Published During the Month.

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No.	2,226.	R. Green, bearings for bicycles, &c.	0	6
„	3,683.	J. Bywater, C. Bedford, and T. Kershaw, Jacquard apparatus	0	6
„	3,897.	E. Clements, washing machines, &c.	0	8
„	4,012.	W. R. Lake, velocipedes	0	6
„	4,019.	J. L. Emory, velocipedes	0	2
„	4,025.	G. Browning, attachments for sewing machines	0	6
„	4,029.	O. Jones and W. O. Williams, machinery for driving velocipedes, &c.	0	8
„	4,037.	L. Avis, velocipedes	0	6
No.	4,108.	F. and J. Mitchell, pickers and stoppers for looms	0	2
„	4,137.	G. Illston, sewing machines	0	8
„	4,195.	G. Illston, tricycles, &c.	0	2
„	4,204.	W. R. Lake, embroidery apparatus for sewing machines	0	6
„	4,219.	H. R. Schreiber, pianofortes	0	6
„	4,257.	E. C. F. Otto, velocipedes...	0	8
„	4,313.	J. Warwick, sewing machines	0	6
„	4,321.	W. C. Errington, bicycle lamps	0	2
„	4,330.	T. Bradford, machines for washing, rinsing, and churning...	0	6
„	4,336.	W. R. Lake, spinning machine spindles ...	0	8
„	4,406.	F. and T. Craven, machinery for spinning ...	0	6
„	4,410.	J. A. Bennett, yarn winding frames	0	2
„	4,430.	S. and A. Keats, sewing machines	0	6
„	4,447.	T. F. Best, velocipedes	0	4
„	4,460.	L. O. Michael, velocipedes	0	2
„	4,480.	W. E. Hart, tricycles	0	2
„	4,498.	R. Steel, C. H. Binns, A. Steinmetz, jun., C. A. Spring, and W. A. Nichols, treadles for sewing machines, &c.	0	6
„	4,506.	G. Taylor, shirts, &c.	0	2
„	4,525.	A. Heaven, embroidery by machinery and ornamenting fabrics	0	6
„	4,543.	W. Martin and J. Hind, Jacquard needles or cross wires	0	4
„	4,575.	T. Butler, velocipedes	0	2
No.	3,774.	F. W. Schwarzsbach, self-acting needle for knitting machines	0	6
„	4,088.	R. H. Charsley, tricycles	0	6
„	4,243.	E. G. Brewer, pianofortes	0	6
„	4,315.	N. Marshall, knitting machinery	0	8
„	4,416.	E. Whalley and J. H. Stott, spinning machines	0	6
„	4,432.	W. Hillman, velocipedes	0	8
„	4,456.	A. G. Duncan, holders for embroidery, lace, &c.	0	2
„	4,605.	A. M. Clark, sewing machines	0	4
„	4,613.	J. Beale, bicycles	0	2
„	4,653.	T. Pritchard, junr., velocipedes	0	6
„	6,658.	E. Hughes, tricycles	0	6
„	4,670.	W. H. Dorman, sewing machinery for boots and shoes, &c....	0	6
„	4,691.	R. E. Osborne, A. P. Mathewson, and J. Guild, spinning machinery	0	6
„	4,706.	S. Thacker, manufacture of cloth in circular knitting machines	0	4
„	4,725.	A. Capra, J. B. Rissone, and S. Detoma, pianofortes, &c.	0	6
„	4,732.	T. Williams, junr., and W. Sangster, machinery for forcing suasage meat into skins, &c. ...	0	6
„	4,763.	C. G. Hawkins, velocipedes, &c.	0	6
„	4,767.	H. Weatherill, tricycles, bicycles, &c.	0	6
„	4,797.	C. A. Barlow, machine embroidery, &c. ...	0	6
„	4,799.	Sir T. G. A. Parkyns, velocipedes, &c.	0	6
„	4,836.	C. Necker and R. Horstmann, whip-stitch sewing machines	0	6
„	4,858.	W. R. Lake, machinery for breaking or scratching flax, hemp, &c.	0	6
„	4,867.	C. Pieper, wool-washing machines	0	2
„	4,873.	T. J. Palmer and C. F. Dietrich, bicycles and tricycles	0	6
„	4,880.	T. Craven and T. Muter, spinning machinery...	0	6
„	4,888.	A. G. Collings and F. Bryant, washing machines	0	2
„	4,917.	J. R. Hancock, bobbin-net or twist lace machines	0	10
„	4,919.	J. H. Northrop and J. Clough, spinning machinery, &c.	0	2
„	4,923.	L. Silverman and J. R. Cumming, sewing machines	0	2
„	4,929.	J. S. Lyon, knife cleaning machines	0	2
„	4,934.	W. Tatham, self-acting needles	0	2
„	4,935.	J. Northwood, kneeler and bucket stand for domestic servants, &c.	0	2
„	4,948.	W. H. Thompson and F. G. Henwood, velocipedes, &c.	0	6
„	4,975.	J. Mitchell, washing machines	0	6
„	4,976.	W. Fox and G. Brown, rollers for wringing and mangling machines, &c.	0	2
„	4,984.	C. F. Cross, treating jute, hemp, &c.	0	4
„	5,086.	H. H. Lake, carding machines	0	6
„	1,169.	W. R. Lake, saddles of bicycles, &c.	0	6

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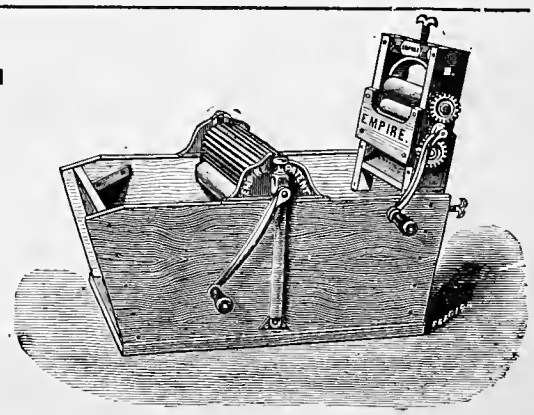

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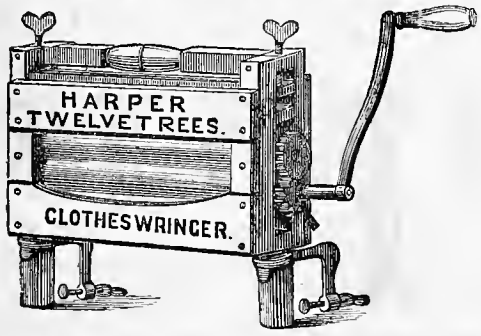

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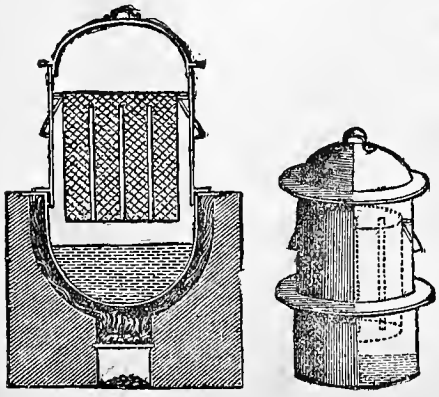

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Steamed 20 Minutes over Copper.

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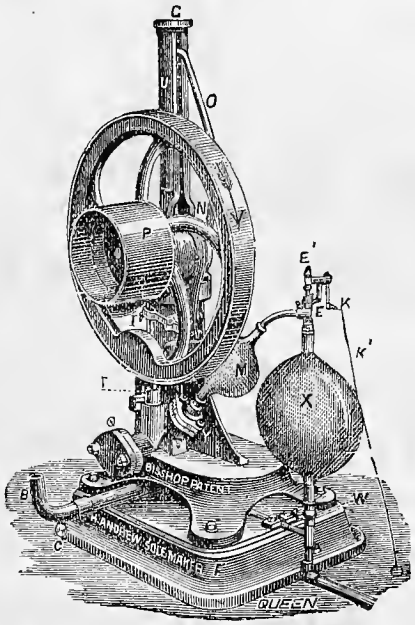

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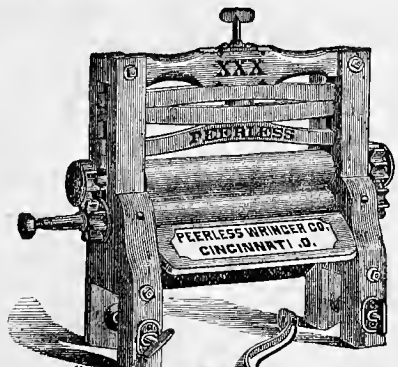

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HARPER TWELVETREES'

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WASHING MACHINE

£2 15s., or with
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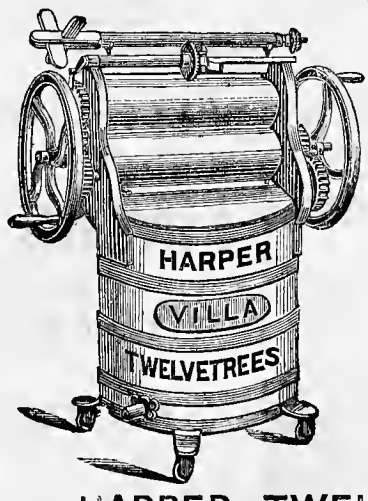

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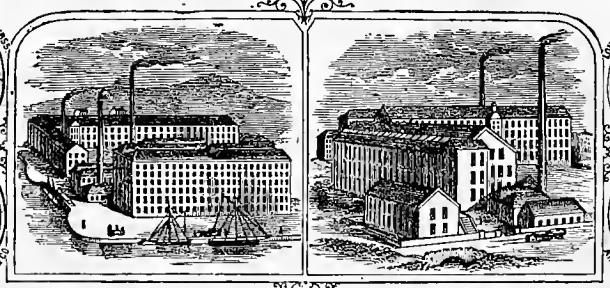

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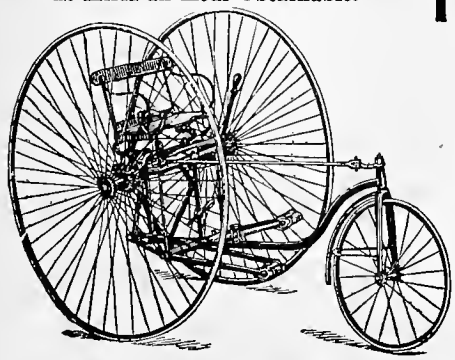

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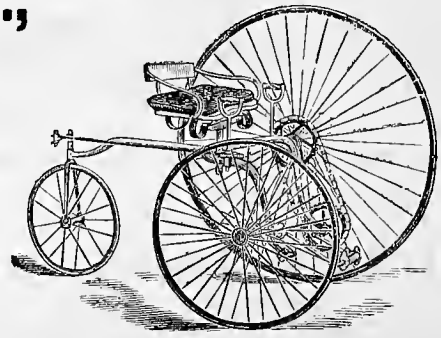

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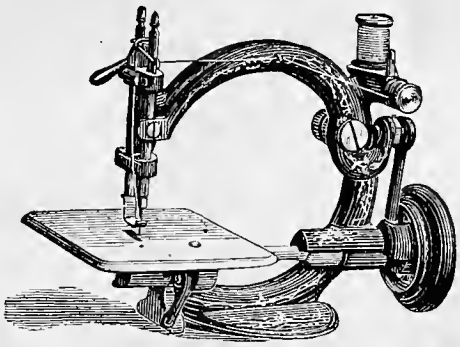

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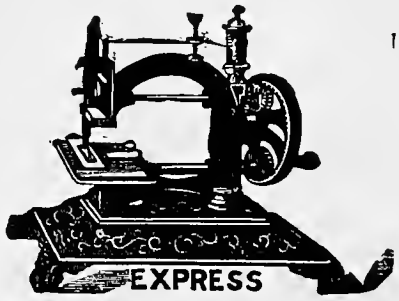

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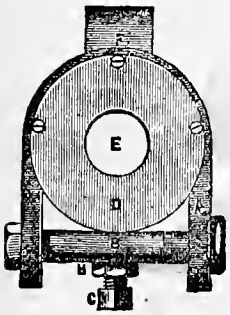

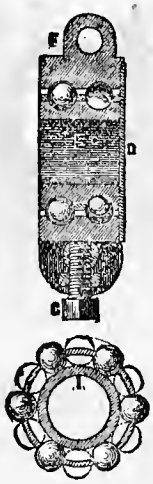

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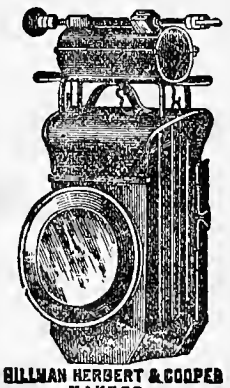

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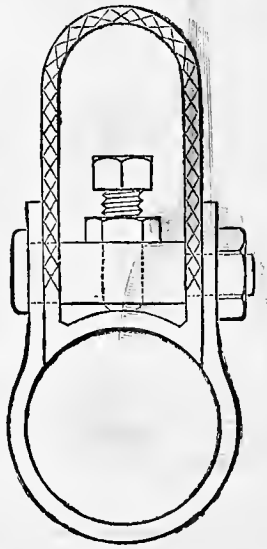

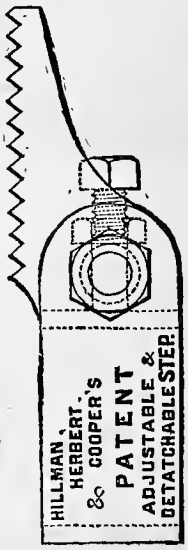

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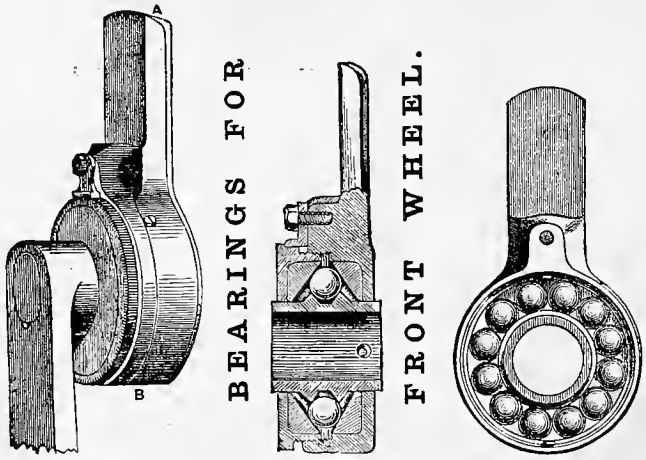

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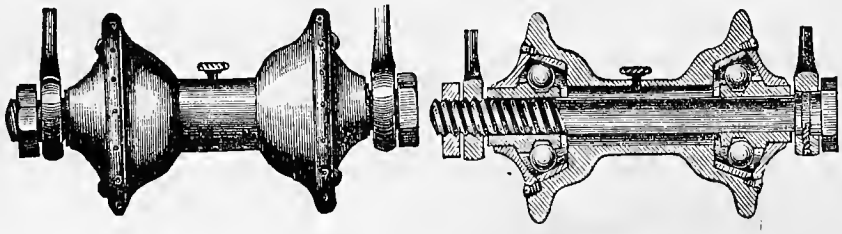

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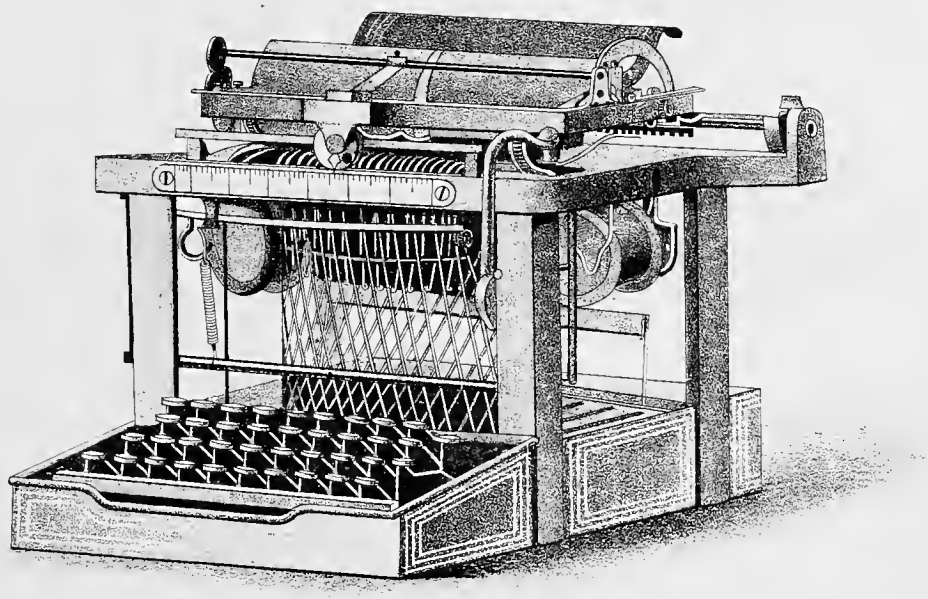

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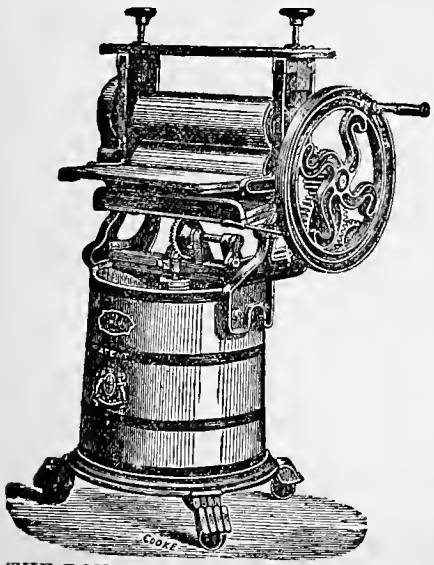

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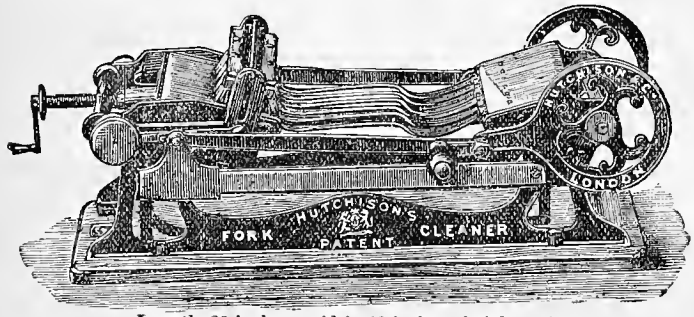

Length, 23 inches; width, 12 inches; height, 9 in.

Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

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As used in the Patent Fork Cleaning Machine. For cleaning and brilliantly polishing all kinds of Plate, Plated Articles, Metal, Tin, Pewter, Looking Glasses, &c. To be had at Oil and Colour Warehouses, and of Ironmongers and Storekeepers.

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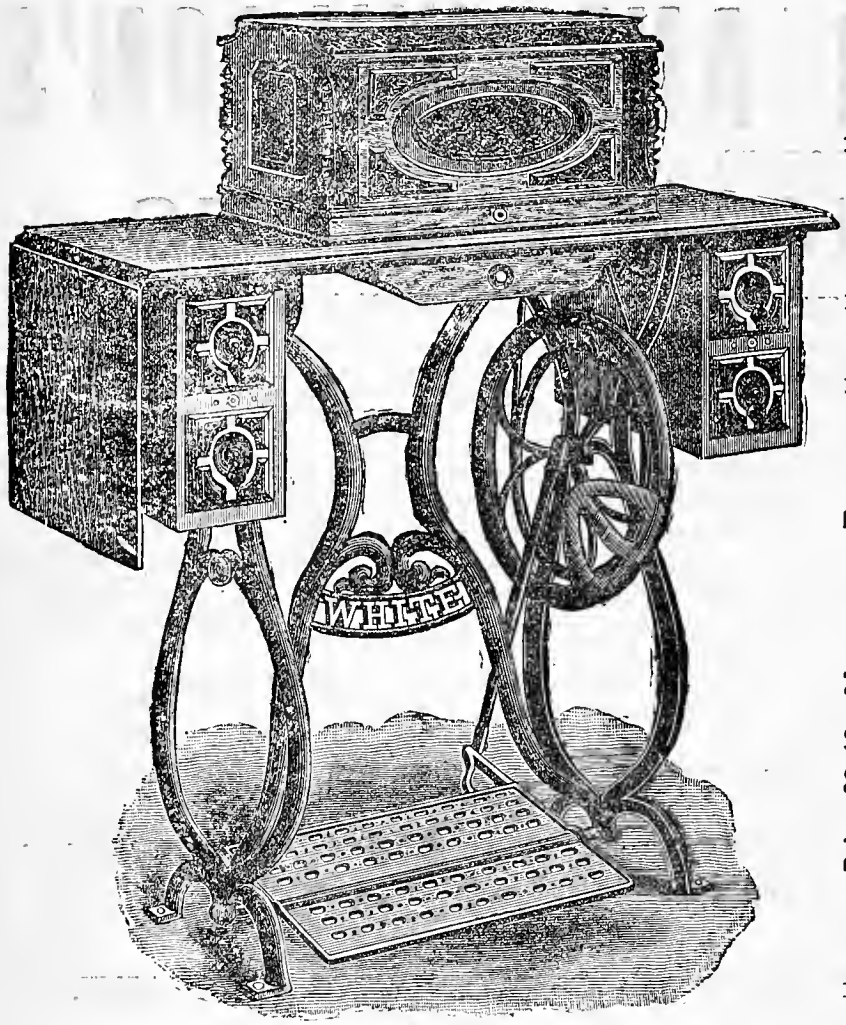

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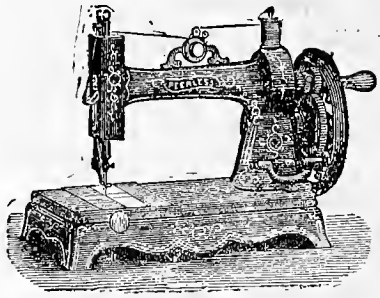

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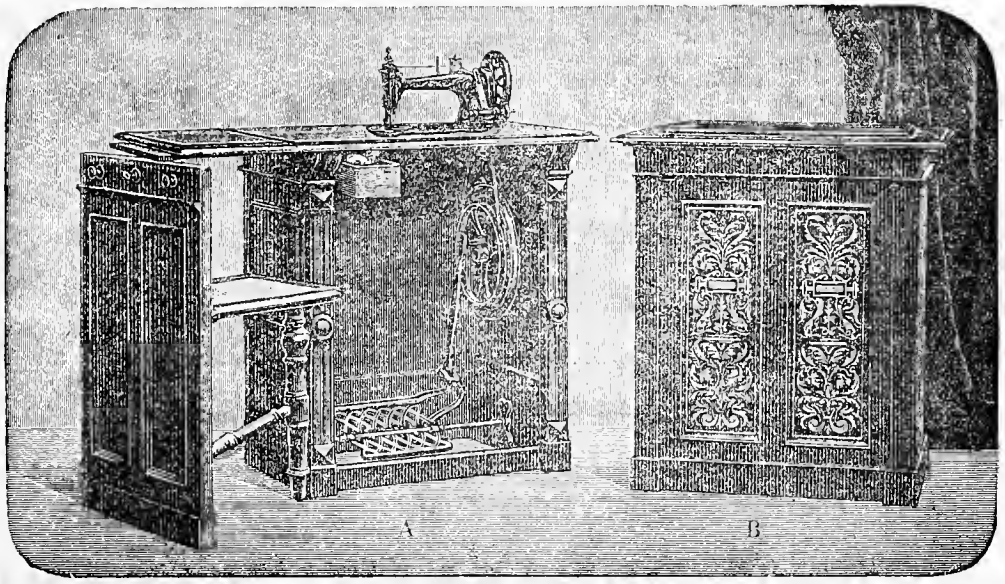

The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

Delivered with complete treadle movement free in London at prices but little above those for usual iron stands with table and cover.

Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

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Furnished for all systems of machines.

Very useful. More solid than iron stands.

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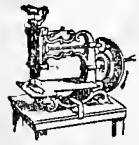
CANADIAN SEWING MACHINES.

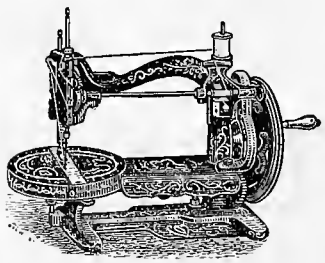


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



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Flowering Machine (with patent vibrating attachment.)

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THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power. and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

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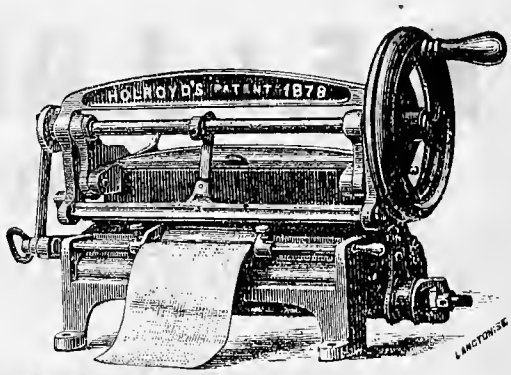

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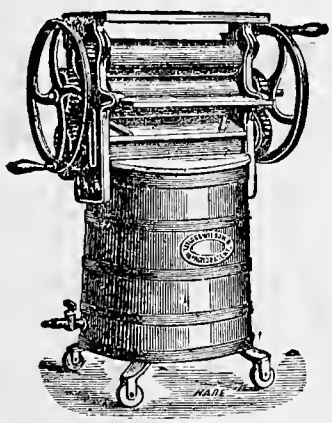

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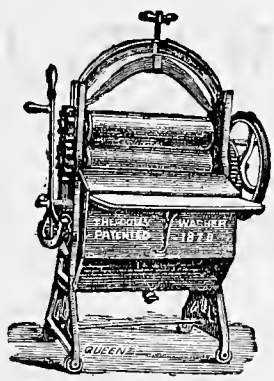

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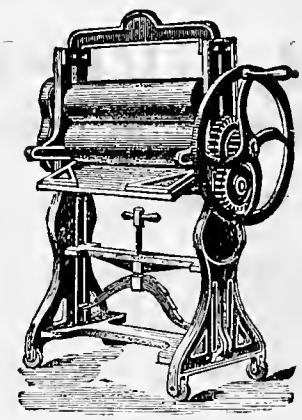

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Morley, 4, Bradford-buildings, Chapel-hill
Newark, 15, Kirkgate
Newcastle-on-Tyne, 16, Grainger-street, W.
Newcastle-under-Lyne, 34, Bridge-street
Newport (Mon.), 28, High-street
Newport (I of Wight), 91, Pyle-st.
Newton Heath, 622, Oldham-road
Northampton, 3, Market-square
Northwich, 17, Witton-street
Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
Openshaw, 37, Ashton-old-road
Ormskirk, 58, Aughton-street
Oswestry, Bailey-street
Otley, 34, Kirkgate
Oxford, 3, New-road
Penrith, 8, Castlegate
Peterborough, 53, Narrow Bridge-street
Plymouth, 3, Bank of England-pl.
Pontefract, 11, New Market-hall
Portsea, 165, Queen-street
Preston, 147, Friargate-street (opposite Lune-street
Ramsgate, 31, West Cliff-road
Rawtenstall, Bank-street
Reading, 61, London-street
Red Hill, High-street
Retford, 3, Grove-street
Ripley, Market-place
Ripon, 1, Blossomgate
Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
Ryde (Isle of Wight), 78, Union-st.
Saffron Walden, Church-street
Salisbury, 56, Fisherton-street
Salford, 4, Cross-lane, and 100, Regent-road
Scarborough, 30, Huntriss-row
Scotholme, Basford-road
Sheffield, 37, Furgate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 61, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

WALES.

Abergavenny, 19, Market-street
Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
Dolgelly, Market-hall
Merthyr, 1, Victoria-street
Newtown, Market-hall
Pontypool, Market-hall
Pontypridd, Market-hall
Swansea, 103, Oxford-street

SCOTLAND.

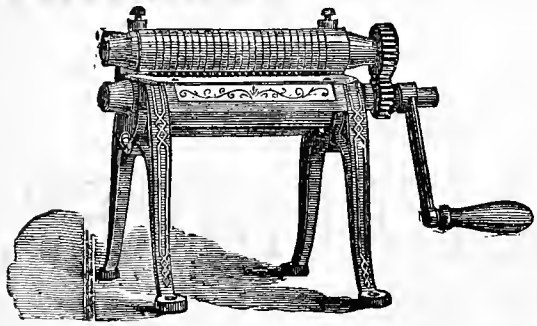
Aberdeen, 225, Union-street
Arbroath, 159, High-street
Ayr, 60, High-street
Banff, 17, Strait-path
Cupar-Fife, 61, Crossgate
Dumbarton, 67, High-street
Dumfries, 127, High-street
Dundee, 128, Nethergate
Dunfermline, 87, High-street
Edinburgh, 74, Princes-street
Elgin, 215, High-street
Forfar, 28, Castle-street
Galashiels, 62, High-street
Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st.
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 83, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 81, Murray-place
Tain, Lamington-street
Thurso, Princes-street

IRELAND.

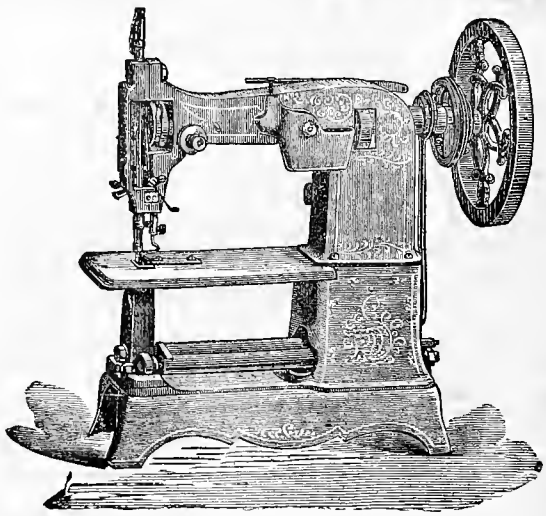
Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st.
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
Galway, Domnick-street
Kilrush, Moore-street
Kingstown, 65½ Lower George-st.
Limerick, 31, Patrick-street
Londonderry, 1, Carlisle-road
Mullingar, Greville-street
Navan, Trimgate-street
Newry, 18, Sugar-island
Parsonstown, 2, Seffins
Queenstown, Harbour-row
Sligo, 45, Knox-street
Tralee, 40, Bridge-street
Waterford, 124, Quay
Wexford Selskar-street.

The ONLY GOLD MEDAL at PARIS for BOOT & SHOE MACHINERY.

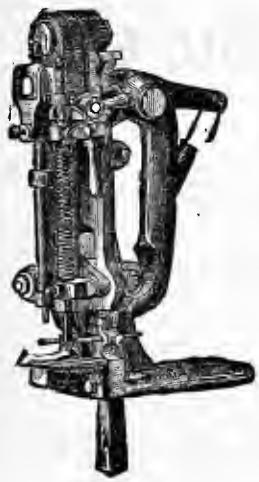
UPPER LEATHER MACHINERY.



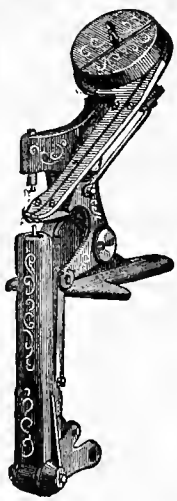
Strip Cutting Machine.



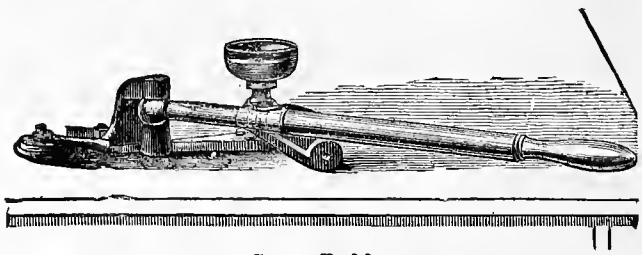
Waxed Thread Sewing Machine.



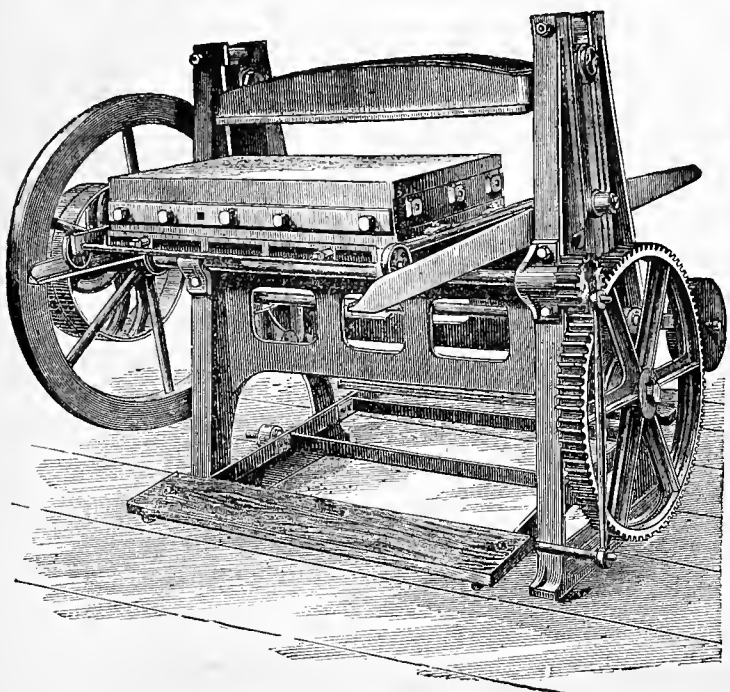
Self-Feeding Punch.



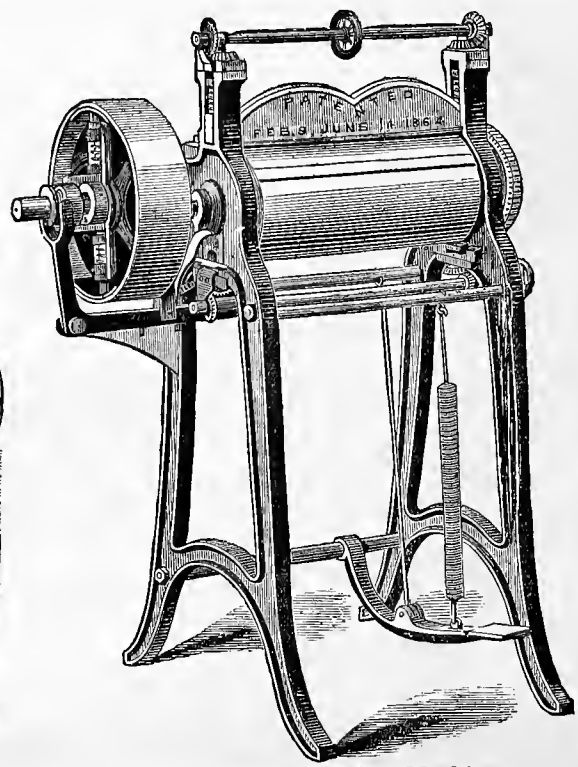
Self-Feeding Eyletter.



Seam Rubber.



Lining or Kid Cutting Press.



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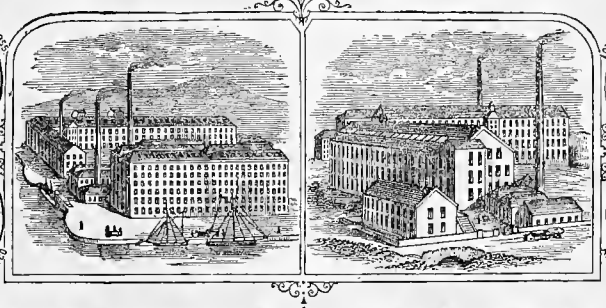

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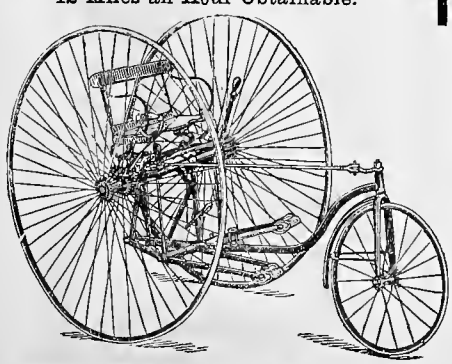

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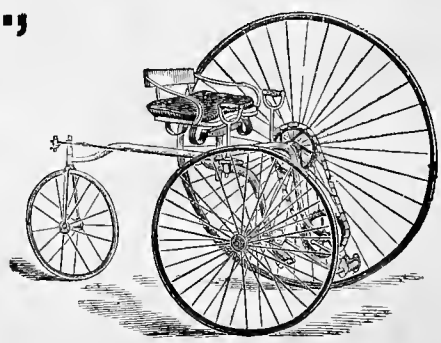

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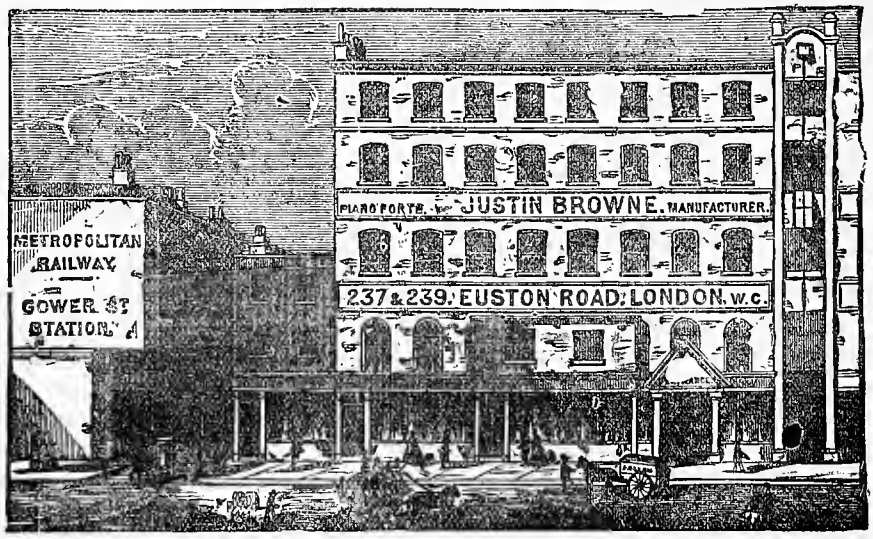

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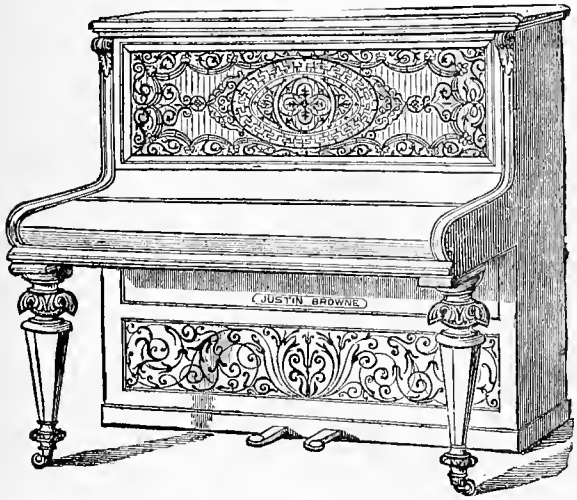
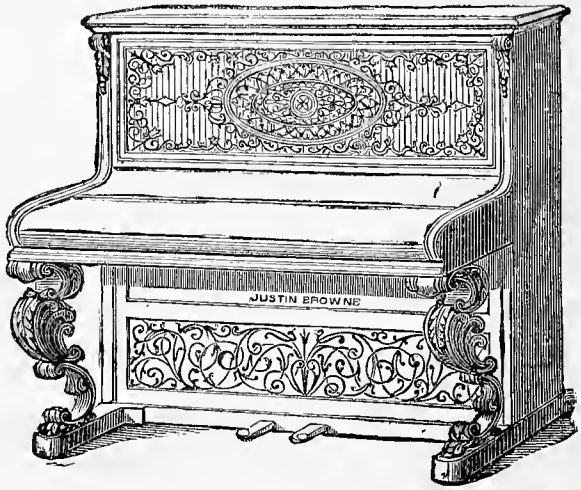
Expressly for Exportation to extreme climates, has succeeded in producing an Instrument which combines English durability and soundness, with first-class quality of tone.





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MARIA CLEMENTINE MARTIN,

Opposite the CATHEDRAL, COLOGNE.

"The samples of Eau de Cologne sent to the Exhibition by MARIA CLEMENTINE MARTIN, Nun, of Cologne, were unanimously acknowledged by the Jury as the best. The precious liquid seemed to contain all the different scents, whilst, on evaporating it, none of them became particularly recognizable. Martin's Eau de Cologne, which was rewarded with the Prize Medal, in general, served as means for comparing and judging the other perfumes." In bottles, 1s., 2s., 3s., 5s. 6d., and 10s. 6d., of all Chemists, Perfumers, and Fancy Dealers.

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Small cases assorted to order (of not less than £3 value in bond) delivered free freight, less 7½ per cent. discount. May be obtained on these terms of any Wholesale House, or at the London Depot:—

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A Pamphlet with full particulars may be had on application.

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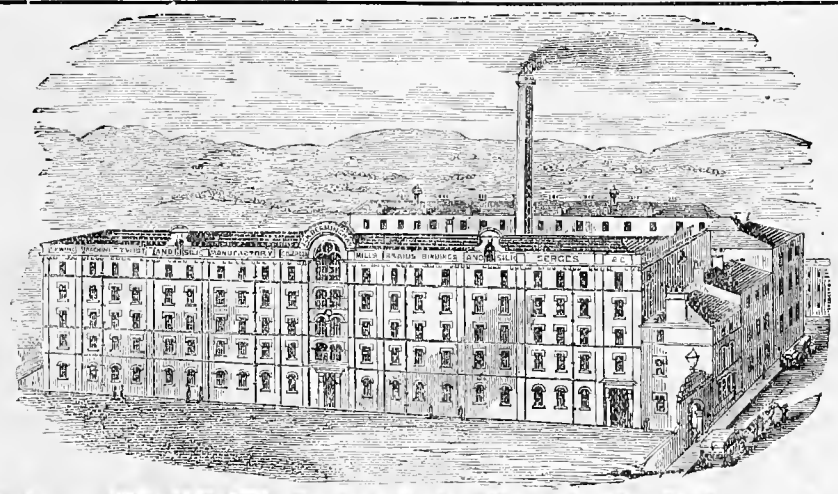

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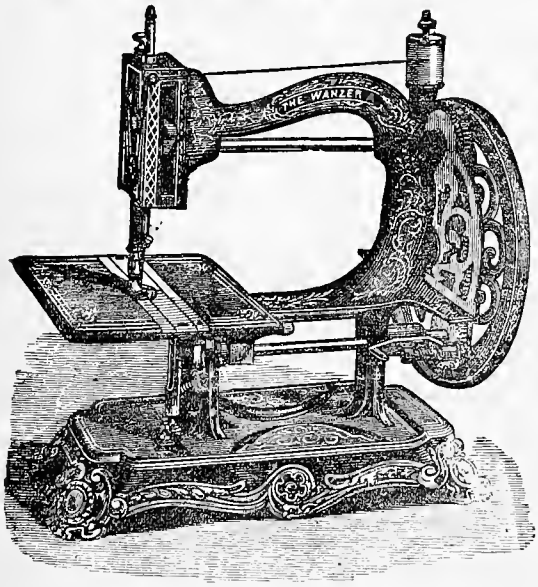

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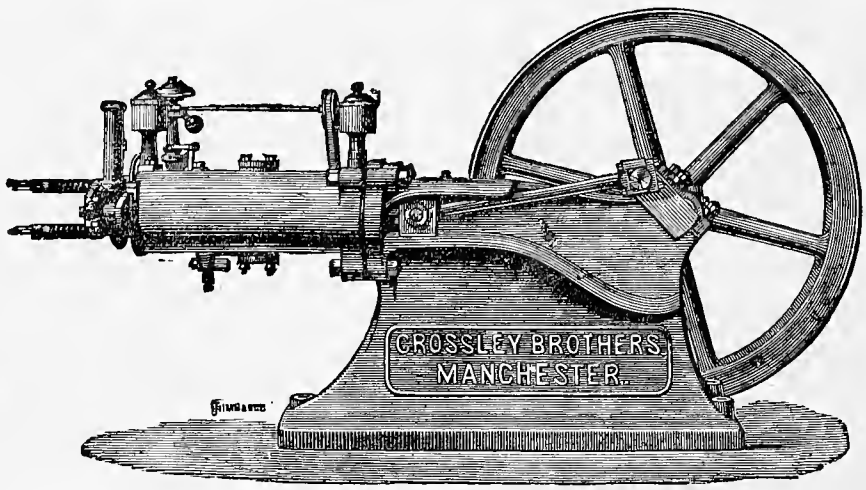

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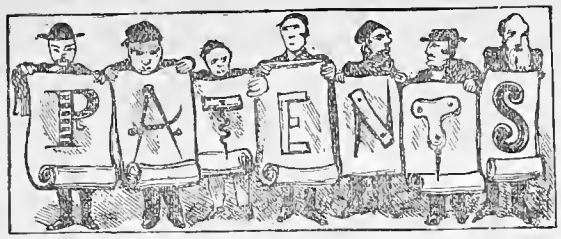


The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. REDFERN, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT :—

No 2,934. W. Scott, of Haverstock-hill, London, for an improved combined rotary knife and fork cleaner. Dated July 5, 1881.

„ 2,936. R. Jones, of Liverpool, for improvements in tricycles, parts of which are applicable to other velocipedes with more than two wheels. Dated July 5, 1881.

„ 2,947. W. R. Lake—a communication from C. A. Dresser, of Southbridge, Massachusetts, United States, for improvements in machinery for cleaning and opening fibrous materials. Dated July 5, 1881.

„ 2,952. L. A. Groth—a communication from H. R. P. Hosemann, of Berlin, for new or improved process of preparing textile materials with chemical solutions of silk, wool, or feather down, or mixtures thereof. Dated July 6, 1881.

„ 2,965. W. R. Lake—a communication from L. Borgognon, of Basle, Switzerland, for improvements in weavers' heddles, and in machinery for manufacturing the same. Dated July 6, 1881.

„ 2,999. H. H. Lake—a communication from P. V. Godard, of Paris, for an improved machine for cleaning and polishing knives. Dated July 7, 1881.

„ 3,016. G. L. O. Davidson, of Hanover-square, London. for improvements in velocipedes. Dated July 9, 1881.

„ 3,018. H. J Haddan—a communication from J. B. William, of Ober Soultz, Germany, for improvements in spinning machine rollers. Dated July 9, 1881.

„ 3,019. W. R. Moss, of Bolton, Lancashire, for improvements in machinery for combing cotton and other fibrous substances. Dated July 9, 1881.

„ 3,039. H. E. Newton—a communication from C. Gavioli, of Paris, for improvements in apparatus for mechanically playing pianos, organs, and similar instruments. Dated July 11, 1881.

„ 3,043. G. J. T. Barrett, of Gray's-inn-square, London, Solicitor, for improvements in bicycles and tricycles, and a method of converting bicycles into tricycles. Dated July 12, 1881.

„ 3,046. T. Coultbard, of Preston, Lancashire, Machinist, for improvements in machinery, or apparatus for spinning and doubling cotton and other fibrous materials. Dated July 12, 1881.

„ 3,048. C. A. Barlow—a communication from Monsieur P. P. Baudouin, père, of Paris, for improvements in circular combing machines for combing cotton, wool, silk, and other fibre. Dated July 12, 1881.

„ 3,066. H. Robinson, of Bolton, Lancashire, Spinning Manager, for improvements in mules for spinning and doubling cotton and other fibrous materials. Dated July 13, 1881.

„ 3,077. H. S. H. Shaw, Lecturer, University College, and E. Shaw, of Clifton, both in Bristol, for improvements in speed indicators for velocipedes, and in the mode of combining the same with the break-lever, and also in the method of attaching the break to the vehicle. Dated July 14, 1881.

„ 3,108. H. J. Haddan—a communication from L. Poitevin, of Amfreville-sur-Iton, France, for improvements in apparatus for scouring and cleansing. Dated July 16, 1881.

„ 3,110. W. H. Howarth, of Cleckeaton, Yorkshire, Architect, for improvements in the mode of propelling tricycles and other vehicles. Dated July 16, 1881.

„ 3,111. C. M. and J. A. Elstob, of Great Saint Helen's, Bishopsgate-street, Within, London, for improvements in apparatus for the exhibition of goods and advertisements in shops, shop windows, bazaars, and like places. Dated July 16, 1881.

„ 3,120. H. Brandes—a communication from T. Harbeck and A. Hasperg, both of Elmshorn, Prussia, for improvements in washing machines and kiers. Dated July 18,1881.

„ 3,127. A Greenwood—a communication from A. Schule, of Basel, Switzerland, for improvements in silk dressing machinery. Dated July 18, 1881.

„ 3,180. J. G. Smith, of Russell-street, Eccles, Lancashire, Builder, for improvements in tricycles. Dated July 21, 1881.

„ 3,196. J. Browne, of Euston-road, London, Pianoforte Manufacturer, for improvements in pianoforte actions. Dated July 22, 1881.

„ 3,200. A. Burdess, of Coventry, for improvements in driving mechanism for tricycles and like vehicles. Dated July 22, 1881.

„ 3,212. G. Singer, of Coventry, for improvements in velocipedes. Dated July 22, 1881.

„ 3,222. R. F. and W. H. Carey, and W. Partington, all of Bulwell, Nottinghamshire, Bleachers and Finishers, for improved apparatus for drying fabrics at tension. Dated July 23, 1881.

„ 3,233. T. Coulthard, of Preston, Lancashire, Machinist, for improvements in machinery or apparatus for spinning and doubling cotton and other fibrous materials. Dated July 23, 1881.

„ 3,245. T. Brown, of Euston-road, London, for an improved monocycle, or one wheel velocipede. Dated July 25, 1881.

„ 3,269. J. Bradley, of Lowell, Massachusetts, United States, Knitter, for improvements in circular knitting machines. Dated July 26, 1881.

„ 3,272. J. H. Johnson—a communication from W. Rennyson, of Norris Town, Pennsylvania, United States, for improvements in bicycles. Dated July 26, 1881.

„ 3,289. W. K. Hydes, of Sheffield, Engineer, for improvements in the construction of bicycles. Dated July 27, 1881.

„ 3,298. D. Mills, of Philadelphia, Pennsylvania, United States, for improved apparatus or mechanism to be applied to a sewing machine, to adapt the same for stitching or sewing button-holes. Dated July 28, 1881.

„ 3,323. C. H. Openshaw, of Bury, Lancashire, Cotton Spinner, for improvements in the method of and means for mounting the spindles of spinning machinery. Dated July 30, 1881.

„ 3,343. J. M. Tyrer, of Crosby, Lancashire, for improvements in velocipedes. Dated August 2, 1881.

„ 3,371. F. Wirth—a communication from P. Praechter, of Heidelberg, Germany, for improvements in velocipedes, partly also applicable to the driving mechanism of sewing machines and other machines driven by foot power. Dated August 3, 1881.

Letters Patent have been issued for the following :—

No. 188. J. C. Mewburn—a communication from E. Antoine, of Fourmies, France, for improvements in sewing machines. Dated January 14, 1881.

„ 260. J. Turner, of Coventry, and J. A. Lamplough and G. F. Erown, both of Birmingham, for certain improvements in the seats of tricycles, also applicable to other analogous purposes. Dated January 20, 1881.

„ 326. R. H. Brandon—a communication from J. H. Morley, Mechanical Engineer, of Holyoke, Massachusetts, United States, for improvements in sewing machines and button feeding devices adapted to be used therewith. Dated January 25, 1881.

„ 428. H. M. Knight, of Surbiton, Surrey, for improvements in stocking and sock suspenders. Dated February 1, 1881.

„ 433. W. H. Bulpitt, of Birmingham, Lamp Manufacturer and Tin Plate Worker, for improvements in hand lamps, bicycle and tricycle lamps, and other lamps. Dated February 1, 1881.

No. 438. B. W. Maughan, of 41, Cheapside, London, Gas Engineer, for improvements in apparatus for the heating of water and other liquid, applicable to bath and other purposes. Dated February 2, 1881.

„ 500. W. E. Gedge—a communication from E. Cornely, of Paris, for improvements in sewing and embroidering machinery. Dated February 5, 1881.

„ 503. J. P. Becker, jun., of Remscheid, Prussia, for an improved skate. Dated February 5, 1881.

„ 589. N. Tupholme, of Sheffield, for improvements in mangling and wringing machines, and in the stands and covers thereof. Dated February 10, 1881.

„ 831. R. P. Robertson, of Leytonstone, Essex, for improvements in the manufacture of stockings and similar looped fabrics, and in machinery for producing the same. Dated February 26, 1881.

„ 959. E. Whitehall, of Nottingham, for improvements in machinery and apparatus to be employed in producing knitted and crocheted fabrics. Dated March 7, 1881.

„ 1,010. J. Barbour, of Belfast, Ireland, Machinist, for improvements in machinery for preparing and spinning hemp and similar fibres. Dated March 9, 1881.

„ 1,548. J. W. Ramsden, of Leeds, for improvements in sewing machines. Dated April 8, 1881.

„ 1,661. W. Hillman, of Coventry, Warwickshire, Machinist, for improvements in velocipedes. Dated April 14, 1881.

„ 1,824. T. Banister, and S. Lees, both of Rochdale, Lancashire, for improvements in the construction of tricycles, part of which invention is also applicable for transmitting motion on other machines. Dated April 27, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 2,562. W. C. Alldridge, of Birmingham, Manufacturer, for improvements in ladies' dress-holders or dress suspenders, and in stocking suspenders. Dated June 26, 1878.

„ 2,578. J. N. Yonck, of Verviers, Belgium, Card Manufacturer, for improvements in the manufacture of cards used for carding wool and cotton. Dated June 27, 1878.

„ 2,597. W. H. Percival, of Harrow-road, Bayswater, London, Cabinet Maker, for a portable perpendicular pianoforte. Dated June 28, 1878.

„ 2,615. J. Hall, of Morley, near Leeds, for improvements in scribbling and carding machinery. Dated June 29, 1878.

„ 2,616. G. F. and W. Bell, both of Burnley, Lancashire, for improvements in mules for spinning and doubling cotton and other fibres. Dated June 29, 1878.

„ 2,628. G. Brook, jr., J. Sykes, and J. Stake, all of Huddersfield, Yorkshire, for improvements in machinery or apparatus for combing wool and other fibrous substances. Dated July 1, 1878.

„ 2,632. J. Lewthwaite, of Halifax, Gentleman, for improvements in rollers for washing, wringing, mangling, printing, spinning, and other like machines. Dated July 1, 1878.

„ 2,672. W. Morgan Brown—a communication from H. E. Penon, Tapestry Manufacturer, of Rue Saffitte, Paris, for improvements in mixed tapestry work. Dated July 4, 1881.

„ 2,710. J. Hookway, of Monkwell-street, London, E.C., Manufacturer, for an improvement in shirt collars. Dated July 6, 1878.

„ 2,758. W. Morgan Brown—a communication from A. C. Carey, of Boston Massachusetts, United States, for improvements in needles for sewing machines. Dated July 10, 1878.

„ 2,774. E. C. F. Otto, and J. Wallie, both of Euston-road, London, for improvements in the construction of bicycles, which improvements are partly applicable to other vehicles. Dated July 11, 1878.

„ 2,791. W. H. Bates, G. Bidlake, and H. Faulkner, all of Leicester, for improvements in the construction of tyres and felloes of wheels for velocipedes and other vehicles. Dated July 12, 1878.

No. 2,805. A. R. and M. Allwood, both of Alcester, Warwickshire, Needle Manufacturers, for an improvement in needles adapted for hand use. Dated July 13, 1878.

„ 2,892. C. Powers, of Sheffield, and G. Perkins, and C. Wilson, both of Manchester, for improvements in sewing machines and in apparatus for application thereto to render them capable of producing a buttonhole stitch. Dated July 20, 1878.

„ 2,955. W. Searle, of Silver-street, Regent-street, London, for improvements in sewing machines. Dated July 24, 1878.

„ 2,971. R. Barnett, of Hyde, Cheshire, for improvements in mangling machines. Dated July 26, 1878.

„ 2,981. J. Clapham, of Leeds, for improvements in the means or apparatus employed in the manufacture of yarns. Dated July 26, 1878.

„ 3,006. J. C. Stanley, of New Hartford, Connecticut, United States, for improvements in the spindles of spinning machines and in quills that may be used therewith. Dated July 29, 1878.

„ 3,007. J. C. Stanley, of New Hartford, Connecticut, United States, for improvements in spinning machines. Dated July 29, 1878.

„ 3,024. J. Barran, junior, of Leeds, for improvements in the means or apparatus for transmitting motion to sewing machines, such apparatus being also applicable for regulating or varying the speed of the same. Dated July 30, 1878.

„ 2,333. W. Gadd, of Barton Arcade, Manchester, Consulting Engineer, for improvements in perambulators. Dated July 3, 1874.

„ 2,335. L. Barton, of Nottingham, Machinist, for improvements in the manufacture of knitted fabrics and in the machinery employed therein. Dated July 3, 1874.

„ 2,393. E. Taylor, of Salford, Lancashire, for improvements in the construction of driving and reversing gear for washing, wringing, and mangling machines. Dated July 8, 1874.

„ 2,416. R. W. Morrell, Stuff Merchant; T. Parkinson, Shirt Manufacturer; and J. Parkinson, Sewing Machine Maker, all of Bradford, for improvements in sewing machines. Dated July 9, 1874.

„ 2,420. T. D. Wanzer—a communication from J. B. McCune, of Hamilton, Ontario, Canada, for improvements in and additions to sewing machines. Dated July 9, 1874.

Specifications Published During the Month.

Postage 1d. each extra.

		s.	d.
No. 4,707.	E. Burstow, velocipedes	0	6
„ 4,938.	W. Wyman, gas stove for heating and ventilating	0	6
„ 4,964.	J. C. Garrood, velocipedes, &c.	0	8
„ 5,006.	H. B. Arundel, spinning machinery, &c. ...	0	6
„ 5,021.	T. Bradford, dividing gear, or actuating mechanism of mangles	0	8
„ 5,029.	A. M. Clark, ring spinning frames	1	4
„ 5,041.	B. A. Dobson and R. C. Tonge, spinning machinery	0	6
„ 5,046.	J. K. Starley, velocipedes	0	8
„ 5,048.	H. J. Griswold, manufacture of stockings, &c.	1	2
„ 5,075.	J. M. Cryer, apparatus for gassing yarn or thread	0	2
„ 5,096.	J. A. Lamplugh, supporting saddles or seats of bicycles, tricycles, &c.	0	2
„ 5,139.	T. B. Drybrough, skates	0	2
„ 5,142.	W. and J. Dixon, machinery for the manufacture of bobbins	0	6
„ 5,157.	J. S. Cooke, apparatus for working velocipedes	0	2
„ 5,179.	T. Coulthard and J. M. Hetherington, machinery for spinning and doubling cotton, &c. ...	0	6
„ 5,185.	G. C. Haworth, and J. Mounsey, spindles and flyers	0	2
„ 5,187.	J. Summerscales, washing and wringing machines	0	4
„ 5,192.	J. C. Fell, spinning machinery	0	6
„ 5,216.	A. Munzinger, spinning machines	0	2
„ 5,235.	R. A. Edwards, bobbins of shuttles for sewing machines	0	2

No. 5,249.	L. Von Hoven, stocking and sock suspending clasp	0	2
„ 5,250.	L. Von Hoven, clasps for suspending stockings, socks, &c.	0	2
„ 5,252.	A. Storer, apparatus for overhead sewing ...	0	6
„ 5,294.	J. Radges, wheels for velocipedes, &c.	0	6
„ 5,304.	W. L. Bigelow, sewing machines	0	6
„ 5,314.	F. E. A. Büsche, apparatus for regulating or governing patterns of work to be produced in braiding machines, &c.	0	2
„ 5,346.	J. Smith, warming and ventilating rooms ...	0	6
„ 5,410.	W. Hillmann, velocipedes	0	6
„ 5,413.	H. H. Andrew, and W. Lockwood, metallic frames for washing and wringing machines, &c.	0	6
„ 5,418.	R. M. A. Duguid, obtaining fibrous material from a palm tree	0	4
„ 5,528.	J. Imray, knitting machinery	0	2
„ 5,440.	J. H. Walsh, tricycles	0	2
„ 5,448.	I. T. Townsend, bicycles and tricycles	0	2
„ 5,460.	A. W. L. Reddie, pirns and spindles of spinning machinery	0	2
„ 5,462.	A. M. Clark, repairing, spinning, and rope making machinery	1	2
„ 5,464.	J. Jackson, furnaces for the prevention of smoke, &c.	0	2
„ 5,470.	W. Andrews, bicycles and velocipedes	0	2
„ 5,495.	R. Rurchell, regulating the admission of air to fire places	0	6
„ 5,508.	W. Fox, and J. Hall, machinery for preparing and feeding fibrous substances on to scribbling and carding machines	0	6
	1881.		
No. 2.	E. Underwood, mechanism for playing upon pianofortes, &c.	0	6
„ 26.	J. H. Johnson, apparatus for weighing yarn or thread, &c.	0	6
„ 35.	W. Woolley, bicycles, &c....	0	6
„ 1,655.	A. M. Clark, cotton gins	0	6
„ 1,697.	W. R. Lake, machinery for opening, cleaning, or scutching cotton, wool, &c.	0	6

NEW AMERICAN BICYCLE.

Some months ago an enterprising American constructed a bicycle just the reverse of those heretofore in use. The small wheel was placed in front to prevent the momentum of the rider from throwing him forward when the machine would come to a sudden stop or a partial stop; also to enable it to be guided more easily. The first form of the new bicycle having been well received, some improvements have been devised. The manufacturers claim for this machine that, while they have made no sacrifice of strength or durability for the purpose of securing phenomenal lightness, they have, by the use of rolled and hammered steel, phosphor-bronze, &c., and also by judicious design and construction, secured the combination of reasonable lightness with strength and durability. Great smoothness of motion is said to result from the use of the heavy rubber tires, which are secured to the wheels by a peculiar device. One of the noticeable features is the use of levers on clutches, operated by the hands, in place of the old foot-crank. It is said this is a much easier way of propulsion, and also that its adoption does away with the necessity for measuring each particular rider for a bicycle, one of these machines being right for the smallest boy or the largest man. Many other improvement are claimed, such as an improved mode of fastening the spokes in the wheels; an improved saddle, a construction which renders mounting and dismounting, as well as steering and turning, much easier. These bicycles are manufactured by the H. B. Smith Machine Company, Smithville, Burlington County, New Jersey.

THE finest lubricating oils in the market are chiefly prepared from sperm oil by digesting it in trays, with clean lead shavings, for a week or more. Solid stearate of lead is formed, and remains adhering to the metal, while the oil becomes more fluid and less liable to change or thicken on chilling.

FACTS AND FIGURES IN BANKRUPTCY.

According to the report of the Comptroller in Bankruptcy there was a considerable decrease in the number of cases administered under the Bankruptcy Act last year as compared with the preceding twelve months, and a very large decrease in the amount of liabilities and estimated assets. In 1879 the number of cases was 13,132, against 10,298 in 1880, a falling-off of 2,834; while the liabilities and assets, which were £29,678,193 and £10,193,617 respectively in 1879, were last year only £16,188,636 and £4,701,504, a falling-off of £13,489 and £5,492,113. It also shows that this is the first important decrease in the annual number of cases under the bankruptcy law that has occurred during the last nineteen years, without being the direct and manifest result of legislation. The Comptroller points out that "the annual number of bankruptcies proper has fallen or risen consistently with the rise or fall of exports and imports, and the same with compositions exceeding 7s. 6d. in the pound, except that they have shown rather more tendency to decrease than increase, caused no doubt, in many cases, by growing appreciation that smaller compositions could be carried as easily as larger ones. The annual number of compositions between 1s. and 7s. 6d. in the pound rose steadily without one fall, from 975 in the year 1870 to 3,240 in the year 1879; while the worst compositions not exceeding 1s., and averaging a few pence in the pound rose from 76 to 739 in six years, when their increase being checked by a decision of the London Bankruptcy Court, the number of these compositions in pence fell to 610, rising again, however, to 1,056 in the year 1879. . . In London the number of these compositions in pence rose from 18 (or 6 per cent. of the whole number of London compositions) in the year 1870, to 156 (or 25 per cent.) in the year 1873, and 216 (or 30 per cent.) in the year 1876, when the before-mentioned decision of the London Court, preventing the registration of resolutions for compositions offered without security or probability of payment, and clearly in the interest of debtors and not of creditors, reduced their number to 107 (or 18 per cent.) in 1877. I believe that means of evading that decision have been discovered; at any rate, the number of these compositions again rose to 185 (or 21 per cent.) in 1879, and to 211 (or 26 per cent.) in the year 1880, notwithstanding the general decrease of insolvency."

Attention is directed by the Comptroller to the existence of accountants, who state that they "aim at effecting an arrangement with creditors, whereby the trader continues in business uninjured, and there is a fund from which loans can be granted to pay the composition, or to enable the debtor to purchase his estate in the unusual event of liquidation. He adds: "However little attention such circulars may deserve, the idea of sending them being conceived eighteen years ago, or soon after the commencement of the Bankrupcy Act, 1861, and of arrangements and compositions to which a majority of creditors can bind a minority without any examination into the debtor's affairs, seems to agree very well with the enormous annual increase of compositions under that Act, and with their extraordinary reduction by such simple provisions as that persons helping to carry deeds by signing them as creditors should prove that they are creditors; the present Act of 1869 is, perhaps, correctly stated to offer greater facilities to debtors than previous Acts. The promised result of compositions is that comfortable homes are not disturbed, the trader continues in business uninjured, the amount of composition being no more than he may borrow on the security of his property, leaving him, say, one-third of that property, with freedom from all liabilities; a very tempting prospect to a man whose property consists of goods bought on credit and who, perhaps, by such composition would be better off than he ever was before. All these may appear idle promises 'to extort fees;' but debtors have appeared in better circumstances after compounding, and there can be no doubt that agents of this class learn by experience how resolutions of majorities of creditors may in most cases be carried. As pointed out in a former report, there were in the first two years of the present Act many more declarations of insolvency by debtors seeking adjudication of bankruptcy than since; arrangement or composition was soon found to be easier and more profitable; in a year or two agents are generally

acquainted with any means by which new legislation may be evaded. While this class of agent is all for the debtors and composition, another and very similar class represents itself as all for the creditors and liquidation by arrangement, its aim being the profits to be made by trusteeships; and between them touting for proxies has become, as is generally well known, a regular business under the present Act. A striking illustration was afforded a few months ago by the conviction of an individual who had for years successfully carried on that business in all parts of England, the only peculiarity of his proceedings being that he frequently changed his name and address, and that, instead of being satisfied with the more or less lawful profits of trusteeships, he appropriated the whole funds of liquidations in which he represented the majority of creditors, sometimes declaring dividends payable in various places by purely imaginary persons, for no apparent purpose but to amuse himself at the expense of the creditors. Many creditors must have known in that case, and must constantly know, that they have been defrauded; but frauds of that gross character occur chiefly in the thousands of smaller insolvencies, and in these are most severely felt by the smaller creditors, whose debts may not be insured in the ordinary way of trade, who do not understand the subject, and who cannot afford to place themselves in the hands of solicitors. As submitted in former reports, it is not the interest of the majority of trade creditors to devote time, trouble, or money to the chance of getting a little more salvage from the wreck of insolvent estates; an average amount of bad debts being an incident of trade as much allowed for in prices as the incidental expenses of trading, the majority of creditors would probably feel, as some traders have expressed, that they are not more likely to look after such matters personally than to carry their own parcels; they can employ their time more profitably. Applying the figures of the year 1880 to a simple illustration in a former report, we have 10,298 estates estimated to average £450 'gross value,' and which, if wound up by arrangement, would probably not produce £300 available assets, subject to reduction by costs and other deductions to perhaps £160; if the creditors could hope by their own exertions to procure a tenth more assets and a tenth less deductions, the result would be an average gain of about £40 per estate, or, say, 40s. per creditor, some large creditors gaining much more, while many small creditors would hardly gain 40 pence. Large debts generally occur in large failures, and are mostly due to creditors in a large way of business, who would not be tempted by the remote possibility of gaining even £40 to give their personal attention during several years to the winding up of a large insolvency. Very large cases, being generally entrusted to respectable and experienced trustees, need not be considered; there are always comparatively few of them, and the returns for the year 1880, including an usually small proportion, afford the best illustration of the prospects of creditors in the great majority of insolvencies. Such prospects would not induce the majority of creditors to take more trouble than needed to hand their proxies to agents, leaving them to settle the question of arrangement or composition with the debtors; 3,757 compositions were accepted in the year 1880, of which 102 were over 10s. in the pound, 1,009 from 2s. 6d. to 5s., and 2,025 from 1d. to 2s. 6d. The amount of annual loss by insolvency has been shown from former returns to have varied considerably, reaching about £25,000,000 in more recent times, and averaging, as estimated in my last report, about £20,000,000 per annum during the then last five years, 1875-79."

"The rate of costs in closed bankruptcies was higher than in any preceding year, being 41½ per cent. of net assets, or 3½ per cent. more than in the year 1879, and 11 per cent. more than in the year 1873, when the assets were of about the same average. This is accounted for partly by the assets of two large bankruptcies being entirely absorbed by costs, chiefly of litigation, partly by the closing in the last two years of estates that have been a considerable time in hand, and partly by the fact that in the early years of the Act a larger proportions of estates were undertaken by creditor trustees without remuneration, or by solicitors under the provisions of Section 29 of the Act, at a moderate percentage, including their professional charges. The balance of unemployed funds in bankruptcy on the 31st of December, 1880, was £308,907; judging only by their relative assets in the last two years, there would be not quite four millions between bankruptcy and liquidation, the whole of which fund is in the hands, or under the control, of the trustees, except £14,467, unclaimed dividends, &c., in bankruptcy, lodged in the Bank of England. Like the former estimates, the above supposes that the same trustees who in bankruptcy need to be considerably pressed to perform their duties perform them as regularly in liquidation without any supervision or chance of the results of their administration being known. The amount of unclaimed dividends in bankruptcy affords, moreover, no index to the probable amount in liquidation; general rules require trustees in liquidation to reserve dividends for all persons who appear as creditors in the bankrupt's statement, or who may notify that they claim to be creditors; the amount of unclaimed dividends may be largely increased by imaginery claims, and various other means to the advantage of trustees; but, without reference to that possibility, considerable funds must remain in their hands that in bankruptcy would be distributed among the persons who had proved that they were creditors."

WHICH IS THE BEST MACHINE?

A question that we are often asked, and which invariably provokes from us a smile, is, "Which is the best sewing machine?" From our position upon the representative journal of the trade we are supposed to be ready to answer off-hand, mentioning the name of one or the other of the numerous family of sewing machines, and to be able to briefly give in detail our reasons for the preference we are expected to express.

To ask such a question with the anticipation of a pat reply is absurd, and people evidently put it without reflection. One might just as well ask what we believed to be the best system of political economy, or the safest and most reliable religious creed, and expect us to reply in the tone and with the confidence of authority.

The sewing machine is an instrument which, no matter upon what system it may be built, however simple, involves a number of movements, all converging toward one point, where the upper and the lower threads meet to form the stitch. This operation can be performed by an endless variety of mechanical movements; there is no limit to the combinations which can be devised for effecting the purpose. This is shown by the exhaustless stream of sewing machine patents which continually flows through the Patent Office, and which shows no signs of running dry—on the contrary, the tide of patents on sewing machine devices seem lately to be more swollen than ever. The sources of mechanical invention are like those of literature—they are inexhaustible.

Out of the vast number of mechanical movements, and combinations of mechanical movements, that are in practical use in the sewing machines of to-day, to select any one movement or set of movements, and to pronounce them to be the best, absolutely in our opinion the best, for the purpose of performing the operation necessary to the drawing of two threads together through a fabric so as to form a stitch, would be an unwarranted assumption of knowledge on our part. Not only would such a declaration be out of place in our humble selves, but we doubt greatly if the most experienced expert in such matters can find any justification for making an emphatic and absolute reply as to which is the best machine. One thing is certain—*experts all differ*—which makes it extremely probable that all may be wrong in their estimates as to which are the best methods of communicating motion to needle and shuttle or hook.

In discussing the question of the efficiency of sewing machine devices there is but one point upon which everyone seems to agree—that the cardinal rule governing their construction should be *simplicity*. But while all admit the truth of this self-evident proposition, they disagree as to which movements and devices are the simplest and the best. To secure simplicity it will not do to sacrifice efficiency, and just where the line

should be drawn, and how it should be drawn, is a point upon which there is the widest divergence of opinion.

Certain it is, that the manufacturers of to-day are producing extremely good sewing machines, which perform their work in a very thorough manner and give satisfaction to their users. But that the manufacturers themselves do not consider that they have reached the limits of perfection, is evidenced by the fact that they are not content to rest their reputation upon their machines as they are, but are constantly striving after improvement in each and every part of the mechanism. While each manufacturer claims that his machine is the best, not one of them feels so sure of it that he is willing to stop right where he is and let his competitors continue the race after improvements without him.

We confess ourselves unable to answer our friends when they ask us which is the best sewing machine. There are many quidnuncs of the trade who will pretend to answer them, and who will give elaborate details of the why and the wherefore in support of their opinions. If our friends are satisfied with the reasons of these gentlemen, and feel convinced by the sequence of their reasoning and the closeness of their logic, we shall feel pleased that their minds have been set at rest upon a topic which has been to them so often a matter of earnest discussion. But, though each of the different systems and styles of sewing machines may have many advocates, even outside of the boundaries of interest, we are inclined to think that the world will have to be more deeply versed in the lore of sewing machines than it is at the present day, before any disinterested and qualified tribunal, whose verdict will be accepted by everyone as final, shall set the question at rest by determining beyond controversion, which is the best sewing machine.—*Sewing Machine News.*

FAURE'S ELECTRIC ACCUMULATOR.

By means of Faure's accumulators, electric energy can be stored and retained to be re-distributed as and when required. Sir William Thomson's experiments have demonstrated, beyond doubt, that not more than 10 per cent. of the electric energy passing through the accumulator is lost, and this loss is certainly less than the average leakage of gas in its transmission through the pipes. With Faure's accumulator a steady divided light, of any intensity required, can be obtained in incandescent lamps, irrespective of their resistance. At the same time, electric energy can be continually produced and stored, and thus a very great saving is effected, as by the aid of the accumulator the steam engines and the dynamo-electric machines can run without cessation during the whole 24 hours of the day. But where Faure's invention is of the greatest value is in its capability of concentrating and transporting motive power, and in its use in the place of animal and mechanical force, so that at will, and at all times, the required amount of power can be had for purposes of traction, and working engines of every kind throughout a town, or for ploughing, thrashing, or other agricultural purposes in the country, or for propelling vessels, barges, and boats upon the water. In fact, once the motive power being carried about in an independent form, it can be utilised, for land and marine purposes, wherever there is a piece of mechanism to be set in motion. Moreover, it will permit of the use and application of the immense and hitherto inefficacious and almost wasted, forces of wind and water, for the inexpensive production of electric energy. All these immense forces of nature which, by reason of their uncertainty, or their distance, have either not been fully utilised, or have been entirely lost, will, by M. Faure's invention, become a certain means of producing the electricity, which can be stored and be drawn upon as required for any of the above purposes. Consequently the storage of electric energy must, of itself, create an economic revolution, and as it can only be accomplished, practically and advantageously, by Faure's accumulators, the proprietors of these patents must of necessity derive enormous profits therefrom. As a practical instance of the value of the invention, it is sufficient to state that by its means the tramcars and omnibuses of London can by electricity be worked at less than half the present expense. Its application as a motive power for the working of the Metropolitan and Metropolitan District Railways, is one of the most important to which it can be adapted. The absence of heat, smoke, and noxious gases will conduce materially to the health and comfort of passengers; and the lighting of the stations and carriages will also be vastly improved, and much more economically effected. Sir William Thomson, in his letter to the *Times* of the 9th of June last, expressed himself in the following words regarding Faure's invention: "The subject is one in which I feel intensely interested, seeing it is a realisation of the most ardently and unceasingly felt scientific aspiration of my life." The description of accumulator now recommended by M. Faure is a battery of rectangular shape, weighing about 50lbs.

One charge of 4 such batteries will suffice for working a sewing machine for a week.

One charge of 4 such batteries will suffice for driving a tricycle for 6 hours, or for propelling a boat containing 2 persons during a like period.

One charge of 8 such batteries will suffice for driving a vehicle with 2 passengers for 6 hours.

One charge of 16 such batteries will suffice for driving a vehicle with 4 passengers for 6 hours.

One charge of 40 such batteries will suffice for driving an omnibus with 24 passengers during 3 hours.

One charge of 50 such batteries will suffice for driving a tramcar with 40 passengers during 3 hours.

The actual cost of re-charging a battery will be about 2½d., but this price will probably shortly be reduced to 1d., or even less. The Company's temporary offices are at 446, Strand, W.C.

NEW GAS LAMP.

Mr. Anton Flemming, of Berlin, exhibits, at the Frankfort Exhibition, a gas lamp with an improved burner and a globe closed at the top. This new lamp gives a light which is more agreeable to the eyes than in most other cases; the burner, being of improved construction, prevents the flickering of the gas; it also presses the light downward, and is claimed to save from 30 to 50 per cent. of the gas. The globes are made of the finest opal glass, are also of improved shape, and may be had in different colours. Being closed at the top, they prevent the ceilings from getting black, and only require cleaning about once a month, as the new burner is said to make no smoke or dirt of any kind.

THE LANGUAGE OF UMBRELLAS.

There is a language of umbrellas as of flowers. For instance, place your umbrella in a rack and it will indicate that it is about to change owners. To open it quickly in the street means that somebody's eye is going to be put out. To shut it, that a hat or two is to be knocked off. An umbrella carried over the woman, the man getting nothing but the drippings of the rain, signifies courtship. When the man has the umbrella and the woman the drippings it indicates marriage. To punch your umbrella into a person and then open it means, "I dislike you." To swing your umbrella over your head signifies "I am making a nuisance of myself." To trail your umbrella along the sidewalk means that the man behind you is thirsting for your blood. To carry it at right angles under your arm signifies that an eye is to be lost by the man who follows you. To open an umbrella quickly, it is said, will frighten a mad bull. To put a cotton umbrella by the side of a nice silk one signifies, "Exchange is no robbery." To purchase an umbrella means "I am not smart, but honest." To lend an umbrella indicates "I am a fool." To return an umbrella means—never mind what it means; nobody ever does that. To turn an umbrella in a gust of wind presages profanity. To carry your umbrella in a case signifies that it is a shabby one. To carry an open umbrella just high enough to tear out men's eyes and knock of men's hats signifies, "I am a woman." To press an umbrella on a friend, saying, "Oh, do take it. I had much rather you would than not," signifies lying. To give a friend half of your umbrella means that both of you will get wet. To carry it from home in the morning means, "It will clear off."

RENNICK, KEMSLEY & CO.,

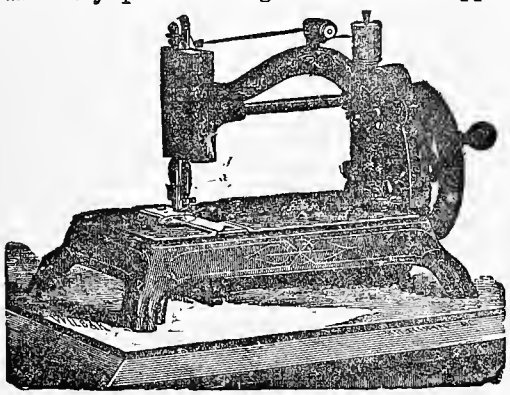
SOLE AGENTS IN EUROPE FOR

Johnson, Clark & Co.,

OF NEW YORK.

THE "HOME SHUTTLE"

Still keeps its place as being the best Hand Lock-Stich Sewing Machine in the world. It is exceedingly simple, never out of order, and always presents a bright and attractive appearance.



We have added the loose winding wheel and all latest improvements.

THE BEST TREADLE MACHINE IS THE

Light Running "Standard"

For Manufacturing and Family use.

Has more points of excellence than all other Sewing Machines combined, and is unquestionably THE BEST MACHINE EXTANT. No other approaches it. All acknowledge its superiority.

IT IS THE ACME OF PERFECTION. Unequalled for extreme simplicity, capacity, durability, speed, ease of management, and wide range of work. Makes no noise. Does not fatigue the operator.

It is a Model of Strength and Beauty.

The most Elegantly Ornamented Machine in the world. Lasts a lifetime, and NEVER gets OUT of ORDER. EXCELS ALL OTHERS IN THOROUGHNESS OF WORKMANSHIP.

We wish to establish Agencies in all Towns, and will give exclusive territory to first-class houses, and furnish Machines at very low prices.

RENNICK, KEMSLEY & CO.,

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By Royal Letters Patent. **BICYCLE MATERIALS**

Of every description, Wholesale and for Exportation.

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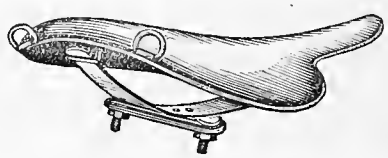
SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads.*"

Price List Free on application to the above,

ALMA STREET,

Aston New Town, Birmingham.

W. HOSIER & CO.,

MANUFACTURERS OF

The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.

Also Perambulators with Bicycle Wheels.

Largest Dealers in the World in New and Second-hand Machines.

MIDLAND BICYCLE DEPOT.

SMITHFORD STREET, COVENTRY.

The Sewing Machine Gazette

AND

JOURNAL OF DOMESTIC APPLIANCES.

THE past month can undoubtedly be called a "month of umbrellas." August, usually so fine and settled, has hardly favoured us with a single day that has not been accompanied by several heavy and long-lasting showers. The rain it raineth every day, and the "little summer shower," instead of lasting, as the song says, "only a quarter of an hour," pours without ceasing the greater part of the day. Indeed, it is getting very serious. The much longed for harvest has come, and throughout the country it has been more or less seriously damaged by the continuous wet weather of this delightful month of August. That the coming month of September may be fine is devoutly to be desired, so that the improvement in the trade of sewing machines and other domestic labour-saving appliances that has steadily set in may continue. The London houses assure us that both the home and export orders show a great increase, and we are gratified to find a very hopeful tone prevailing as to the season's outlook.

The bicycle trade seems to be in a very prosperous condition just now. Wolverhampton, which lately made a machine to carry five persons, has been favoured with a repeat order from the purchaser, an Indian prince. Coventry and Birmingham, though not sharing orders from such distinguished persons, are still busily employed on machines for the general public, whose money is every bit as acceptable. The rapid rise and the continued progress of this trade have, of course, enlivened other industries. The makers of steel hoops and wire at Sheffield are busy, as also are the indiarubber manufacturers. One of these firms sends out to bicycle manufacturers no less than £7,000 worth of rubber a month.

Whoever has listened in the still of the night to the sound of the policeman's footstep as, with measured heavy tread, he patrols the street, must surely have thought that no better warning than this of the approach of the police could possibly be given to any gentleman of the Bill Sykes profession. In London streets, where long rows of houses are built on either side, a policeman's footstep at night is so distinct as to be heard at least several hundred yards off. Surely there ought to be some remedy against this. Thieves put wadding on their shoes to deaden the sound. Our police should take a leaf from their book, and put themselves on tricycles. In Coventry the police have availed themselves of these machines, and by silently and swiftly patrolling the city have in one week captured three burglars. A tricycle with good india-rubber tyres is almost noiseless, and a policeman mounted on one of them would be able to come up with a thief ere he was aware of his approach, and if he took to flight we don't think a good swift tricycle would be much behind him.

Woolwich Gardens—the rendezvous of the "'Arrys" of East London, and famed for its barmaid show—seems a curious place in which to hold an exhibition of straw plait, and machines for making the same. We expect, however, that the country lasses from about Luton and Dunstable—who, at work nimbly plaiting, were also part of the exhibition just held at Woolwich—proved a far greater attraction to the crowds of visitors than any mechanic, however clever, that may have been employed at sewing straw plait. Those interested in sewing machines, however, could not fail to appreciate some of the machines at work there.

OUR ILLUSTRATED SUPPLEMENT

Represents the Wheeler and Wilson Machine, No. 8, with the Hallenback Button-hole Attachment. The greatly-felt want of so valuable an adjunct to the sewing machine has induced the Wheeler and Wilson Manufacturing Company to give the Hallenback Improved Button-hole Attachment a thorough trial. They testify: "The work it does seems to be very perfect, and the Attachment appears to be well constructed, both for durability and accuracy;"—a very modest testimonial, every word of which we can endorse, having seen, examined, and thoroughly tested the machine ourselves. It makes rapidly and thoroughly a straight button-hole, barred at both ends, without the operator handling or turning the goods. As is well known, the requisites for a Button-hole Attachment intended for general use may be briefly summed up as follows It must be simply and durably constructed, adjustable for all classes of goods, instantly attachable to the sewing machine without requiring any alteration to the machine itself, and entirely automatic in its operation, so that no especial skill shall be required to operate it. All of these requirements we find fulfilled in the Attachment under consideration. Every required alteration or adjustment, as change in length of button-hole, quality of stitch, depth of bite and centre space, so important in encountering various fabrics, are all instantly attainable by means of thumb-screws. Directions for accomplishing these objects are plainly lettered on the Attachment, so that all necessary information is always before the operator. There is no change whatever required in the sewing machine; the Attachment cannot be placed incorrectly, and it can be attached or removed in one minute's time; it is entirely automatic, working both sides of the button-hole and securely barring both ends by its own action, requiring no handling or guiding of any kind, infallibly reproducing the work for which it has been adjusted. As well as for family use, the No. 8 Machine is admirably adapted for light leather work—of course using "leather point" needles—and for button-holeing ladies and children's kid boots and shoes, the Wheeler and Wilson Manufacturing Company's No. 8 Machine, with Attachment, will, we have no doubt, command still larger sales

WAGES IN MELBOURNE.

The following particulars respecting the current rate of wages are taken from the *Melbourne Argus:*

Drapers.—In all the best establishments well-qualified drapers' assistants earn from £2 10s. to £4 per week. Carpet salesmen obtain about the same rates. Upholsterers, £2 10s. to £3 and £4 per week. Mantle makers, 15s. to 20s. per week. Milliners from 35s. to £3 10s. per week. Needlewomen and dressmakers from 15s. to 20s. per week.

Cabinet Makers.—The earnings of the men employed in this trade are very variable. In some of the best shops in Melbourne the wages paid are as high as £3 10s. per week, while in inferior establishments the men receive from £2 10s. to £3 per week. In the country the wages paid are still less.

The Sewing Machine in France.—The new tariff, which fixes the duty on sewing machines at 6 francs per 100 kilogrammes, will result in increasing largely the importation into France of foreign machines. This duty, which, especially on machines of American and English manufacture, is to-day from 72 to 84 francs per 100 kilogrammes, will, on the taking effect of the tariff, which cannot be far off, reduce the duty at once to the figure above-mentioned. The result will evidently be an increased importation, which must lead to a fall in prices, as that is the natural effect of a more lively competition.

Increase in British Exports.—Commenting upon the report of the Commissioners of Customs, the *Pall Mall Gazette* says:—Last year's export trade was upwards of £31,000,000 larger than that of 1879, and of this total £17,000,000 represented our exports to foreign countries. Nearly every country except Germany, Turkey, Peru, and the Spanish West Indies bought more from us last year than they did in 1879. The decreased exports to Germany, however, came to £1,648,000—a result not so much of Prince Bismarck's tariff, we suspect, as of the steadily increasing poverty of the German people. But small decreases of this kind were abundantly compensated elsewhere. France bought more by £606,000 from us last year than in the year before, and Belgium took £690,000 more, partly on German account perhaps. But the greatest increase was in the demand of the United States, which exceeded that of the previous year by £10,534,000. No other foreign country shows anything like the same augmentation, but British India closely approached that total, with an increased import of £9,522,000. Canada, again, the new tariff notwithstanding, bought £2,264,000 more, emboldened thereto by the prosperity recorded her by the fine harvest.

KENT'S KNIFE-CLEANING MACHINES.

All inventions having for their object the lessening of time and labour in the economy of the household must possess three essential requisites. They must be simple and durable in form, and unfailing in operation. One of the first, perhaps the first successful, appliance to save time and labour, and ensure the better performance of household work, was the "Rotary Knife-Cleaning Machine," invented, patented, and introduced in 1844 by Mr. Geo. Kent. Families, public institutions, and others, at once recognised the speedy, cleanly, and efficacious mode of removing the stains and restoring the polish of knife blades, which, hitherto, was but indifferently done, and was the cause of much labour and annoyance; indeed, the Rotary Knife Machine must be deemed the parent of household machinery, as it familiarised servants to the use and introduction of numerous other domestic appliances that now are to be found in every well-appointed household.

Since its introduction, the original inventor has made most important improvements, which have been protected by Royal Letters Patent, and by the aid of expensive machinery, knife machines are now made at prices within the reach of all. The extent of their usefulness is verified by the fact that thousands upon thousands of the machines are in daily use in the palaces of her Majesty the Queen of England; and in nearly every royal residence in Europe; in the mansions of the nobility, and in the houses of private families throughout Great Britain and Ireland; in the mess-rooms of the Army and Navy; on board the royal yachts, and in every passenger steamship on home or foreign stations, including the Royal Mail Steamers, the Peninsular and Oriental, the African, the North of Europe, and the Pacific; also in the Universities, College, scholastic establishments, and public institutions of England; the Mansion House of the Lord Mayor of London, and the Halls of the City Companies; in every club-house, hotel, and restaurant of importance in the kingdom. It is also extensively used in the Colonies.

Lord Brougham, who was as strongly impressed with a correct notion of the inventive genius of the period as any man of his time, was somewhat surprised to hear a leading engineer state that of all the social introductions of the previous 20 years he would rather have been the originator of the perambulator and of the Rotary Knife-Cleaning Machine. The one, however, from want of foresight in being merely secured by registration, has long since become "open property," the other—the Knife-Cleaner—having been patented by its inventor, Mr. Kent, is still manufactured in enormous numbers, although scarcely any establishment of consequence appears to be without either one or more of these time and labour-saving machines. Such patronage, obtained without any extraordinary efforts or lavish expenditure, makes it conclusive that similar appliances that will meet an equal want are sure to command the interest and welcome of householders, for it is very rare that you find such testimony of any patented invention as the following:—"Sir,—I intended some days since, acknowledging the arrival of the Knife Machine, but changing my residence has occupied much time. I like my new machine very much, and if it only proves as good as its predecessors I shall indeed have reason to speak well of your patent, for the former was purchased by my father in the year 1847, and to my certain knowledge was in constant and hard use from that time up to August, 1880, without having anything done to it beyond a little oiling. I think it only right you should know this, although no doubt you have heard many speak in equal praise of your valuable Knife-cleaning Machine."

It may be well to remark that, as too frequently happens in all cases of really successful appliances, numerous makers of knife machines have attempted to produce an article that may claim a share of public patronage, and as it may be interesting to many of our readers, we have selected a few to illustrate how nearly they appear to approach the desired effect, yet fall short in efficiency and durability from misconception in mechanical construction, and up to the present day no system has been adopted that will approach the origiual machine.

One of the most gratifying results of the introduction of household appliances has been the establishment of a new branch of commercial industry that gives constant employment and support to numerous families, who are manufacturing articles that lighten the daily labour of domestic life.

THE BUSINESS OF MESSRS. JOHNSON, CLARK AND CO.

Among the hills of Franklin County, Mass., on the Vermont and Massachusetts Railroad, at a distance of about ten miles from the Connecticut River, lies the town of Orange, extending on both sides of a stream called Miller's River. Although quite a variety of manufacturing is carried on in the place, the most important industry is that of Messrs. Johnson, Clark and Co., the manufacturers of the "New Home" sewing machine. The history of their business dates as far back as 1860, but the small works of those days have developed into one of the largest and best fitted factories in the country. The shops are very extensive, covering an area of nearly 200,000 square feet of flooring. An iron bridge which spans the river extends from the shops to the foundry. The latter is over 300 feet in length, and melts between fifteen and twenty tons of iron daily. The factory buildings are large and handsome, equal to any in the country. Over six hundred men are employed. The reader can imagine the amount of the pay-roll. The prosperity of the town has brought many merchants to the place, who have opened fine stores and do a thriving trade.

The general office for the sale of the immense number of sewing machines made at the factory, is at No. 30, Union-square, New York. It is a handsome building, five stories in height, with a basement, The entire basement floor is used for the shipping department, and is fitted up with every facility for the purpose. It is constantly filled with a large stock of machines for domestic and export trade. There is an elevator to the sidewalk. The department is under the charge of Mr. J. F. Brixby, who probably has as much work to do in the twenty-four hours as any shipping clerk in the city of New York, so great and constant is the demand for the "New Home" sewing machines.

The office floor is on a level with the side walk. A large show-window extends across the front, on either side of which are entrances. A fine wax figure, tastefully dressed, machines and samples, occupy the window space. The front portion of the room is the showroom and city salesroom, which is presided over by Mr. E. T. Thomas. A variety of machines are exhibited, with new and beautiful designs of woodwork, in which the firm are making great improvements. Everything relating to the city trade is here conducted by Mr. Thomas and goes through his hands. Not a day goes by but that a large amount of business is transacted, for in the city of New York the "New Home" Machines are very popular and have met with a large sale.

In the rear of the first floor and separated from the salesroom by an elegant partition are the offices of the clerks and book-keepers, and Mr. Schenck's private office. Each department has separate books, one book-keeper attending solely to the finance, another to the exports, and another to the domestic business, all reporting to Mr. Schenck. A busier man than the latter it would be hard to find. He is attended by a stenographer and works as hard and constantly as any man in the whole establishment. A better arranged and better managed sewing machine concern it would be impossible to find anywhere. Everything moves like clockwork, and the extensive and varied business is carried on with facility and despatch. No pains are spared to keep the "New Home" machines in the very front rank. A set of new adjustable attachments have just been got ont, and quite an ingenious novelty has been added to the machine in the shape of a double-feed, which is the most effective we have ever seen. No sewing machine company owns a more valuable set of patents upon essential parts of the sewing machine than Messrs. Johnson, Clark and Co., and there is hardly a month passes but that they make some valuable addition to them.

The second floor is used for the storing of goods, the shipping of machines for the city trade, and a small shop for the adjusting and repairing. This is also under the control of Mr. Thomas.

On the floor above is one of the most important depart-

ments of the business, that of advertising and general printed matter. The quantity of circulars and instruction books in different languages, picture cards, fans, &c., &c., stored away on this floor is surprising, and must weigh at least several tons. In enterprising and novel advertising the "New Home" people are not behind any of their competitors—indeed, they are setting an excellent example to most of them. Their large trade is due in a great measure to the judicious and widespread advertising the "New Home" machine has received, as well as to its merits as a first-class piece of mechanism. Mr. A. A. Walters has entire charge of the department, and his ingenuity is constantly taxed to devise new methods of attracting the public attention. Three times a week huge bags of mail matter are delivered to this department, containing copies of the newspapers which the firm advertise in. These papers are scanned over and the advertisements checked off. There is hardly a country paper of any consequence in the United States that does not contain an advertisement of the "New Home."

The remainder of the building is used for general purposes. Throughout, the whole establishment is handsomely fitted up with every facility for conducting the business. There is telephone connection with the down-town office on Broad-street, which has been established for the convenience of the export trade. The corps of *employés* is large and efficient, and taken all in all, the headquarters of Messrs. Johnson, Clark and Co. is a model business concern.—*Sewing Machine News.*

ADELAIDE INTERNATIONAL EXHIBITION.

The last mail brings particulars of this exhibition, the opening of which on July 31 by his Excellency the Governor was duly announced by telegram of that date. The exhibition has proved highly successful, the demands for space having been so numerous and urgent that it was found necessary to extend the original plan and to greatly increase the area. The main building is that belonging to the Agricultural Society, to which have been added a number of important annexes, the principal of which contains 16 courts. These are respectively devoted to Victoria, New South Wales, New Zealand, Tasmania, France, Germany, Austria, Italy, Belgium, Japan, Turkey, China, Switzerland, America, India, and Great Britain. The British court occupies more than two-thirds of the east side of the annexe, with an area equal to six times that of any other. In this court the models and representations of the London and St. Katharine Docks Company, particularly those of the wool warehouses, are attracting much notice. Near these are shown the specimens of the Telegraph Construction and Maintenance Company illustrating the progress of submarine telegraphy. The Steel Company of Scotland have a good show of plates for marine, locomotive, and stationary boilers; Messrs. Hingley and Sons some fine specimens of anchors and cables; and the West Cumberland Iron and Steel Company steel rails, plates, and steel castings, &c. The miscellaneous exhibits comprise a fair representation of the varied industries of the United Kingdom. In honour of the opening the House of Assembly adjourned. The ceremony was brilliant and imposing, being attended by the Chief Justice, the President of the Legislative Council, the Speaker of the House of Assembly, the members of the Government, and the Mayor and Council of Adelaide. An address was presented to his Excellency, who declared the exhibition open, after which a cantata, written by Mr. D. C. F. Moodie, and composed by Monsieur Meilham, was executed.

To renovate morocco shoes dip a clean sponge in warm milk, pass it over the shoe, and then polish with a piece of new flannel. This will not only clean the shoes, but restore them to their former brilliancy.

On July 16 last, in the Chancery Division, the Master of the Rolls made an order for the compulsory winding-up of the Patent Automatic Knitting Machine Company, Limited, directing that the order should not be drawn up provided that the petitioning creditor's debt and a certain judgment debt were paid. Those debts had been discharged, and a formal order was now taken dismissing the petition.

LIQUIDATIONS BY ARRANGEMENT.

Melhuish, Sydney, New-road, Gravesend, sewing machine dealer July 25.

Elliott, Henry Ley, Fore-street, Exeter, ironmonger. August 5.

Midalay, William, King's Cross Road, ironmonger. August 12.

Roberts, John, Bridge-street, Corwen, Merionethshire, ironmonger August 15.

Thomas, Wm. Henry, High-street, Ryde, late Earl's Court-road, Kensington, Goldhawk-road, Shepherd's Bush, and Addison-road, ironmonger. August 15.

Blackburn, Joshua, trading as Joshua Blackburn and Co., Huddersfield, machine maker. August 13.

Frayer, Robert, Market-place and Dean-street, South Shields, and Albert-street, North Shields, ironmonger. August 10.

Sands, Henry, Carlton-road, Nottingham, ironmonger. August 11.

BILLS OF SALE.

Barber, Robert, Easingwold, Yorks., ironmonger; deed of gift to daughter. In favour of Ann Barber. Filed July 27.

Brooks, George, Gloucester-street, Faringdon, Berks, ironmonger; £70. In favour of Charles Croxeter, senr., and others. Filed July 29.

Burton, William, Dunn's Farm, Langford, Budville, Somerset, machinist; £400. &c. In favour of John Kidner. Filed July 26.

Hawes, John Arthur, Church-street, Coggeshall, Essex, ironmonger; set. tr. fr. wf. In favour of Arthur T. Hewitt. Filed July 28.

Johnson, Wm. Alfred, Peach-street, Wokingham, Berks, ironmonger; £22, &c. In favour of Benjamin Blaiberg. Filed July 26.

Lees, George, Wheetfield Iron Works, Bardsley, Ashton-under-Lyne, Lancashire, machinist, and Lees, Samuel, Wheetfield Iron Works, Bardsley, Ashton-under-Lyne, Lancashire, machinist; £2,863. In favour of Thomas Lees and ano. Filed July 28.

Hanford, Wm., Bank-road, Matlock-Bank, Derby, ironmonger; £200. In favour of Thomas Hammersley. Filed July 30.

England, Elizabeth, 145, New North-road, machinist; £21 12s. 3d. In favour of Henry Jones. Filed August 18.

Jones, William Robert, High-street, Llangefai-road, Anglesey, ironmonger; £200. In favour of Andrew Lawrie. Filed August 19.

Moore, John Joseph, 67, Fore-street, City, ironmonger, and Moore, Henry Wm., 67, Fore-street, City, ironmonger; £100 (abs. sle.). In favour of James Kowin. Filed August 20.

Ackroyd, George, Market-square, Heanor, Derbyshire, ironmonger; £39, &c. In favour of John Mason. Filed August 12.

Bartram, Habakkuk, Dickleburgh, Norfolk, machine proprietor, and Bartram, James, do do do; £112. In favour of John Winkel. Filed August 9.

Hamilton, James, 40, Broad-street, Park-gate, near Rotherham, ironmonger, &c.; £130 8s., &c. In favour of Yorkshire Advance Bank. Filed August 8.

Patrick, William, University Bicycle Works, Tin-alley, and 41, Pearson-street, Wolverhampton, bicycle manufacturer, and Patrick, Henry William, do do do; £20, &c. In favour of George Lambert. Filed August 13.

COUNTY COURT JUDGMENTS.

Roberts, Owen, Port Madoc, Carnarvonshire, ironmonger; £22 10s. 6d. June 20.

Ault, Ambrose, 124, Pritchett-street, Birmingham, bicycle implement maker; £21 10s. June 28.

Austin, Charles Dudley, 151, Pilgrim-street, Newcastle, machinery dealer; £12 19s. 10d. July 2.

Barrett, William, Duke-street, Barrow, Lancashire, ironmonger; £11 18s. 4d. June 27.

Collyer, W., 101, Oakley-street, Westminster-bridge-road, ironmonger; £11 17s. 2d. July 1.

Hughes, H. C., Queen-street, Portsea, Hants, ironmonger; £16 10s. 10d. June 18.
Powell, R. E., North-end, Croydon, ironmonger; £11. June 28.
Powell, R. E., 25, North-end, Croydon, ironmonger; £18 15s. 7d. June 24.
Robinson, ——, 61, Woodhouse-lane, Leeds, ironmonger; £12 2s. July 2.
Tucker, Joseph, 8, Regent-parade, Ventnor, Hants, ironmenger; £17 1s. June 14.
Walmesley, J., Carnforth, Lancashire, ironmonger; £11 12s. 7d. July 8.
White, George, Christchurch, Hants, ironmenger; £13 10s. 11d. June 30.
Roberson, B., Surrey-street, Croydon, ironmonger; £12 16s. 5d. July 4.
Rutter, William, Pitney-street, Vauxhall, Birmingham, ironmenger; £11 0s. 1d. July 14.
Davies, J. W., Newtown, Montgomeryshire, ironmenger; £16 14s. 11d. July 11.
Scott, George, St. Helens, Lancashire, ironmonger; £13 3s. 7d. July 13.
Smith, Sons, and Co., West-street, Sheffield, bicycle manufacturers; £15 9s. 4d. July 7.
Tankard, John, Woodhouse-lane, Leeds, ironmenger; £34 2s 10d. July 12.
White, G., Christchurch, Hants, ironmonger; £14 17s. 10d. July 13.

Dissolutions of Partnerships.

Gordon and Tedhunter, Whitehaven, ironmonger. July 1. Debts by Charles Dickinson Gordon.
Marshall, T. and A., Loughborough, ironmongers. July 1. Debts by Albert Marshall.

AMERICAN INVENTIONS IN FRANCE.

The French patent laws, says an American exchange, provide that "no foreign invention can be patented in France except under the condition that the article invented and the machinery necessary to its fabrication be made in France; that the inventor who manufactures the article in any other country and imports it for sale loses his right to the invention, which then becomes public property." It is easy to see how disadvantageously this law has operated to American inventors. But the French people are now beginning to see that it acts equally to their disadvantage. A United States inventor now takes up his patent in France simply to secure the invention in case of future requirement. He does not do so with the idea of utilising his invention in France, because the laws of the country, as he knows, prevent his doing so with profit to himself. He would be obliged to erect a manufactory there, and have requisite machinery also made there, so that the manufactured article might be manufactured by French machinery on French soil. This great additional expense the inventor will not, for obvious reasons, incur, and as the imported article cannot be sold without forfeiture of the patent rights, the invention remains a dead letter so far as the enjoyment of it to the French people is concerned. There have been cases where the American inventor has gone to the expense of making new machinery and erecting workshops, as, for instance, in the manufacture of sewing machines. In some cases, again, the American inventor has disposed of his patent rights for France, but they have been few in number. As a consequence, the vast majority of our useful and labour-saving machines are practically unknown to the French people.

THE BALANCE SHEET.

How to make a balance-sheet, suitable for the small tradesman properly, is worth knowing. A bad balance-sheet helps to bring very great numbers of those to ruin who work upon the false assumption that they are so much better off at a given time than they really are. The stock having been "taken" in a careful manner—all new goods at cost price, and the old stock at its value—you then make out the balance sheet, which is a setting forth of the exact position in full, under its respective headings. Under the heading of liabilities on the one hand, we have creditors and expenses of every kind, as against assets on the other hand, which include the stock-in-trade, fixtures, cash in hand, book debts (if any), &c., &c., at the given time. The difference between the two accounts (which should be complete to be true) gives the exact position of the tradesman. This should be a sufficient description of a balance-sheet, but to make it perfectly simple, we may describe it as taking all the *bills that we owe* in the left hand, and all the money that we can *realize* in the right hand; the difference between the two gives the result.

The balance-sheet here given is an illustration of the probable position of a tradesman holding a stock of about five hundred pounds:—

General Balance, December 31, 1881

Liabilities.				Assets.			
To Capital	£600	0	0	By cash on hand and at Bankers	£155	0	0
,, Crediters... ...	200	0	0	,, Stock	510	0	0
,, Net Profit ...	92	0	0	,, Debters	42	0	0
				,, Lease and Fixtures, less depreciation ...	185	0	0
	£892	0	0		£892	0	0

In drawing up a correct balance-sheet, account should always be taken of "*capital invested*," and a proportionate allowance should be made as shown under the headings "Interest upon Capital" and "Depreciation of Lease."

As a direct result of stock-taking, we have to do with two other distinct accounts, and these, like the balance-sheet (of which they form part) may be rendered perfectly simple by illustration. We have first to deal with the "Trading Account;" our stock sheets have given us the amount of stock for this year, we must add this to the sales, while on the disbursement side we have the stock of last year and the purchases since. The difference between the two gives the gross result of the year's trading. The example we give below may serve to render the illustration complete, as showing the mode of placing the figures.

Trading Account.

1881.				1881.			
Jan. 1.—Stock in trade ...	£500	0	0	Jan. 1 to Dec. 31— Sales... ...	£2,000	0	0
Further purchases ...	1,600	0	0	Dec. 31.—Present Stock in hand... ...	510	0	0
Gross profit	410	0	0				
	£2,510	0	0		£2,510	0	0

Having arrived at the gross profit, we have now to find out the net gain upon the year's saving; for this purpose we have to draw up what is called a "Profit and Loss Account," and here on the "Liability" side we place the whole of our working expenses, and for our assets we have the gross profit. The balance shows the result of the year's trading under:—

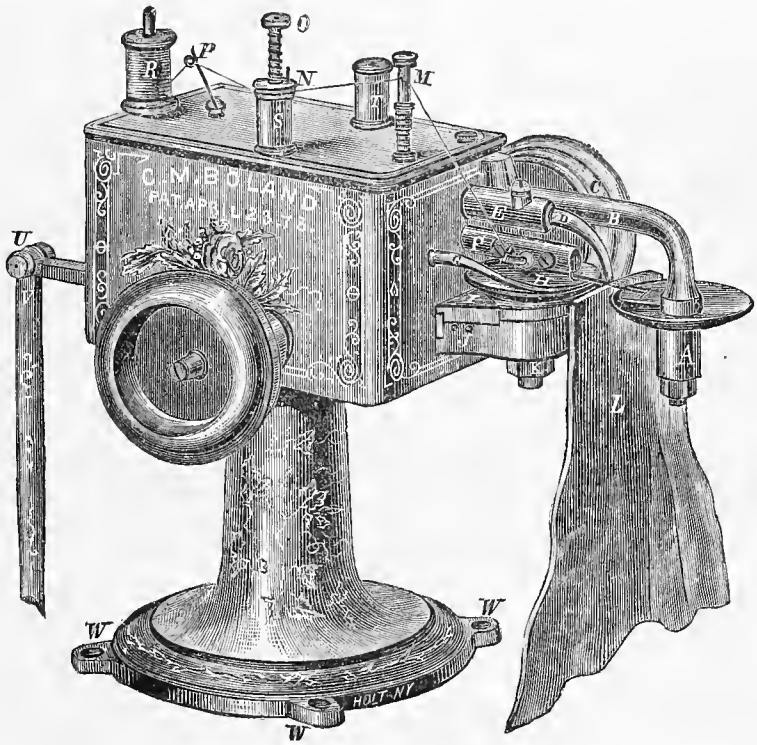
Profit and Loss Account, 1881.

Rent and Taxes ...	£75	0	0	Gross Profit	£410		0
Salaries	30	0	0				
Household Expenses	120	0	0				
Insurance...	2	0	0				
Sundries	20	0	0				
Personal Expenses...	26	0	0				
Depreciation of Lease	15	0	0				
Interest upon Capital	30	0	0				
Net Profit...	92	0	0				
	£410	0	0		£410	0	0

Paris Electric Exhibition.—Of sewing machines there are numbers at work; but there would seem to be little need for this novel aid for ordinary purposes; but for those who are employed from morning to night in sewing stock goods for the market, the action of the ordinary treadle is very fatiguing, and the operators in such cases may find much relief, at least, if they do not do much more work, through the electrical assistance.

A NEW FUR SEWING MACHINE.

The inventor of this new sewing machine—an illustration of which is given below—is Mr. C. M. Boland, of 194, Elm-street, New York. It is well adapted to sewing fur on the top of boots, and is used by some large American boot manufacturers with great success. Previous to the introduction of Mr. Boland's machine there were no machines in use adapted to the purpose of sewing fur; glove sewing machines constructed according to various systems were tried, only to prove unsuccessful in accomplishing the desired purpose, for it was found to be impossible to sew large pieces of fur, as, for example, an entire cloak, with the machines in vogue. This defect has been remedied and removed in the perfected machine constructed by Mr. Boland.



The principal claim consists in leaving out the column supporting the front feed disc for holding the work; the disc being fixed in a manner to allow the work to pass freely through the machine, without regard to the size of the article to be sewed. Such an arrangement is absolutely necessary in a machine designed to sew fur, carpet, &c., and is equally desirable for sewing gloves.

Another arrangement of great utility is that the machine runs both ways, either right or left, avoiding the inconvenience caused by breaking needles, and at the same time greatly facilitating the operator. A person can learn to perfectly operate the machine in two or three hours. By removing two or three pieces which are easily put together again, and by changing a cog wheel, the stitch may be changed as required. The change could be made as in other machines by a wheel screwed underneath, only such a plan would interfere with the arrangements adopted by Mr. Roland.

The hook which catches the loop up by a central movement, instead of a spring as in other machines, allows it to make as fine and strong a stitch as may be required.

The Boland Machine patent is dated April 23, 1878, since which time he has perfected many improvements which render the machine entirely practical.

A NEW MOTOR FOR SEWING MACHINES.

At the Frankfort Exhibition is now being exhibited a motor for working sewing machines, &c., made by W. Hoffmann, of Mühlhausen, Thüringia. The motor is in the shape of a chair, and is put in motion by the weight of the person sitting upon it. As soon as the lever on the right hand side is pushed down the machine is put into motion by the seat, which is fastened to a rack which slowly sinks. By exercising a light pressure of the feet on the treadle the seat is replaced in its former position without getting up from it, and no hindrance is caused to the working. The treadle may be altered according to the person, whether short or tall. By a slight reaction of the feet, the machine may be worked quickly or slowly, and the most careful stitching may be done with it. By ordinary machines the treadle is moved up and down from 120 to 150 times per minute, whereas it only requires to be done 4 or 5 times by the motor, and does, therefore, not tire the operator, even if one were to work it for several days in succession. A special advantage of working sewing machines by this motor is that the machines do not require the usual frame or table, but may be placed upon any ordinary table. Whenever the motor is not at work it may be used as a chair, and fixed to any height.

The Right Hon. the Lord Mayor has accepted an invitation to open the Leather Trades' Exhibition on the 26th inst. We sincerely hope that all exhibitors will have finished their stands by that date, and that all may be in apple-pie order for the opening ceremony, which, we presume, will take place at about twelve o'clock.

There is a young lady in Keokuk, Iowa, who is 6ft. 4in tall, and she is engaged to be married. The man who won her did it in these words—"Thy beauty set my soul aglow—I'd wed thee right or wrong; man wants but little here below, but wants that little long."

A gentleman who was asked for his marriage certificate quietly took his hat off and pointed to a bald spot. The evidence was conclusive.

THE WAY INDIARUBBER IS GATHERED IN COLUMBIA.

In this country the rubber hunters have the wasteful custom of cutting down every tree from which they extract the rubber instead of tapping them. For this reason all the rubber trees near the rivers have been destroyed years since, and the rubber hunters have now to go five days or more journey into the forests, crossing swamps and mountains, before they can find the rubber and bring it out on their backs over these rough trails. Each succeeding year the quantity of rubber gathered is lessened. Unless the people begin planting rubber trees this trade will become a thing of the past. It has been a matter of surprise that the Columbian Government does not carry into effect its regulations against the further destruction of one of the most valuable forest trees. The importance of the rubber tree in connection with the many and useful purposes to which it is now applied can hardly be estimated. The attention of the planters of this country has never been turned to the cultivation of the rubber tree. A good chance for American investment exists in this direction. A plantation of rubber trees would prove a more valuable source of profit than that of any other. There are places on the Sinu River where rubber trees will grow from eight to ten inches in diameter in three or four years from planting of the seed. The trees require but little attention, and begin to give returns sooner than most any other tree. The trees which yield the largest supply of rubber flourish along the banks of the Sinu and Aslato Rivers.

The rubber hunters, before entering the woods, provide themselves with guns, ammunition, flour, salt, and tobacco. For meat the hunters depend upon the game they can kill. A roof of palm trees is quickly made, and every man starts out with his gun and *machette*, each one in a different direction and alone, hunting for rubber and game. As soon as one finds a rubber tree he cleans a space around the trunk, cutting away all vines, underbrush, &c., and marches on again in search of more rubber trees, not returning to camp until night. According to the immemorial custom, a tree belongs to him who has cut around it. The hunt is continued until all the trees in the vicinity of the camp are thus secured. Then begins the work of gathering the rubber. A hole is dug in the ground near the rubber tree, unless some other party is encamped near; in which case the holes are dug near the camp. The bark of the tree is first hacked with a *machette* as high as a man can reach, the cuts being made in the form of a V, and the milk (sap) collected as it exudes, and put into the hole which has been dug for it.

After the milk ceases to flow from the cuts a pile of wood or brush is made at the foot of the tree, and the tree is chopped down, the branches keeping one end of the tree off the ground, and the piles of wood at the foot of the tree doing the same for the other end. Thus the trunk is suspended. The hunter, after carefully placing large leaves on the ground under the tree, proceeds to cut gashes in the bark of the tree throughout its whole length. The milk is collected from the tree and the leaves placed under it, and added to the milk first collected. The sap, when it first exudes from the tree, is as white as milk and about as thick as cream; but it soon turns black on exposure to air and light, if not properly watched and cared for. The quantity of milk which is put into one hole depends not only on the size of the trees and their distance apart, but also on the strength of the man who is to carry the rubber from camp to the river and the track and trail he must carry it over. As soon as a hole has all the milk a hunter intends to put into it he coagulates the rubber, by adding some substance, such as the root of "*mechvacan*," hard soap, &c., and these substances cause the milk to coagulate so fast as to prevent escape of the water which is always present in the fresh sap, and as the rubber and water will not mix, a piece of rubber coagulated this way is full of small cells containing water. Of course a piece of rubber full of holes is not so valuable as a piece of homogeneous rubber. For this reason Carthagena rubber is worth less than Para rubber. I have seen the rubber of this country made perfectly homogeneous, clear and transparent as amber. It costs no more to make such rubber than to make it full of holes, water, and dirt. It also costs on more to pack one pound of such rubber out of the woods than to pack one half-pound of porous rubber with its half pound of water and dirt.

As soon as the rubber trees are cut down and the rubber coagulated, the pieces are strapped on the backs of the hunters by thongs of bark, carried by them out to the bank of the river, and brought to market by canoe or raft.

The value of the rubber exported for the year ending Dec. 31, 1880, was 335,113dols., an increase over the previous year, due to the fact of the recent high price of the product. Of this amount the United States bought to the value of 238,393dols.

There are yet many square miles of rubber trees that have never been touched; but access to these valuable forests is very difficult.

PROFESSOR W. H. FOWLER ON FEET AND FASHION

We extract the following from a book just published, written by Professor Fowler:—In walking, and especially running, the action of the foot is as follows: The heel is first lifted from the ground and the weight of the body gradually transferred through the middle to the interior end of the foot, and the final push or impulse given with the great toe. It is necessary then that the parts should all be in a straight line with one another. Any deflection, especially of the great toe, from its proper direction, or any weakening of its bones, ligaments, or muscles, must be detrimental to the proper use of the foot in progression. Against this it will perhaps be urged that there are many fairly good walkers and runners among us whose great toes have been considerably changed from the normal position in consequence of wearing pointed boots while young. This may be perfectly true, but it is also well known that several persons, as the late Miss Biffin, and an artist familiar to all frequenters of the Antwerp picture gallery, have acquired considerable facility in the use of the brush, though possessing neither hands nor arms, the one painting only from the shoulder, and the other with the feet. The compensating power of nature is very wonderful, and when one part is absent or crippled, other means are found of doing its work, but always at a disadvantage as compared with those best fitted for the duty.

The loss of elasticity and motion in the joints of the foot, as well as the wrong direction acquired by the great toe, are in most persons seriously detrimental to free and easy progression, and can only be compensated for by a great expenditure of muscular power in other parts of the body, applied in a disadvantageous manner. The labouring men of this country, who from their childhood wear heavy, stiff, and badly-shaped boots, and in whom, consequently, the play of the ankle, feet, and toes is lost, have generally small and shapeless legs and wasted calves, and walk as if on stilts, with a swinging motion from the hips. Our infantry soldiers also suffer much in the same manner, the regulation boots in use in the service being exceedingly ill-adapted for the development of the feet. Much injury to the general health—the necessary consequence of any impediment to freedom of bodily exercise—must also be attributed to this cause. Since some of the leading shoemakers have ventured to deviate a little from the conventional shape, those persons who can afford to be specially fitted are better off as a rule than the majority of poorer people, who, although caring less for appearance, and being more dependent for their livelihood upon the physical welfare of their bodies, are obliged to wear ready-made shoes of the form than an inexorable custom has prescribed.

The changes that a foot has to undergo in order to adapt itself to the ordinary shape of a shoe could probably not be effected unless commenced at an early period, when it is young and capable of being gradually moulded into the required form.

The English mother or nurse who thrusts the tender feet of a young child into stiff, unyielding pointed shoes or boots, often regardless of the essential difference in form of right and left, at a time when freedom is especially needed for their proper growth and development, is the exact counterpart of the Chinook Indian woman, applying her bandages and boards to the opposite end of her baby's body, only with considerably

less excuse ; for a distorted head apparently less affects health and comfort than cramped and misshapen feet, and was also esteemed of more vital importance to preferment in Chinook society. Anyone who recollects the boots of the late Lord Palmerston will be reminded that a wide expanse of shoe leather is in this country, even during the prevalence of an opposite fashion, quite compatible with the attainment of the highest political and social eminence.

No sensible person can really suppose that there is anything in itself ugly, or even unsightly, in the form of a perfect human foot; and yet all attempts to construct shoes upon its model are constantly met with the objection that something extremely inelegant must be the result. It will perhaps be a form to which the eye is not quite accustomed; but there is no more trite observation than the arbitrary nature of fashion in her dealings with our outward appearance, and we all know how anything which has received her sanction is for the time considered elegant and tasteful, though a few years later it may come to be looked upon as positively ridiculous. That our eye would soon get used to admire a different shape may be easily proved by anyone who will for a short time wear shoes constructed upon a more correct principle, when the prevailing pointed shoes, suggestive of cramped and atrophied toes, become positively painful to look upon.

FURNITURE TRADES' EXHIBITION.

This important Trades' Exhibition, which was opened at the Agricultural Hall on the 4th of August, and continued for twelve days, was visited by large numbers of sightseers, as well as by members of the trade, from all parts of the country, and, though the first of the kind, was pronounced by both visitors and exhibitors alike a decided success ; so that for next year's exhibition, which is announced to take place on the 1st to 15th May, most of the leading exhibitors have already secured space—in many cases more than double that lately occupied by them. Taken as a whole, the Exhibition was one of the prettiest ever held in London, the stands of many of the exhibitors being bright with floral decorations. Sewing machines and domestic appliances proper were not, as may be expected, largely represented. Washing machines and mangles were shown by the Highbury Machine Co., who were the only exhibitors of sewing machines and bicycles. The Household Machine Co. exhibited Summerscale's washers and mangles; Ryan and Ryan, washing machines. The mangles exhibited by Mr. Jas. Lilly were those made by Messrs. L. Smith and Co., of Bury, and were remarkable for the superiority of their make and finish.

The upright grand pianoforte shown by the maker and patentee—Mr. W. H. Davies, of Great Newton-street, Liverpool—possessed two novel features of special interest. The reverberating sound-board and guitar pedal—arrangements peculiar to the instruments of this maker—lend Mr. Davies' manufactures a more than ordinary value by enhancing their capabilities in the hands of experienced pianists. The reveberating sound-board is an arrangement by which a close sympathy between the sound-board and strings is formed, thereby giving the harmonies of the octave a fourth below any note played. By this means the duration of the sound is greatly increased, and the lower notes can be distinctly heard for four minutes. The "guitar pedal" is designed to control the vibrations of the strings, and has the same effect on the piano as a mute on a violin. It is also very effective in playing very soft passages, and when used with the expression or celeste pedal can scarcely be distinguished from the "plucked" notes of a guitar.

The pianofortes of German manufacture shown by Messrs. Fritz Victor and Co., of Bruckly-street, Barbican, commended themselves to the visitor not only by the purity of tone and fine finish of the wood work, but also by the low price at which they were offered.

Of course, the most important exhibits were those connected solely with the furniture trade; the stands of Messrs. C. and R. Light, Lucraft and Son, Jackson and Graham, and many others, attracting much attention. High Wycombe manufacturers were represented by Messrs. Skull and Son, Cox and Son, and North and Son.

Iron and brass bedsteads were exhibited by Mr. S. B. Whitfield, of Birmingham, and Mr. W. Bryett, of Caledonian-road, each making a good show. The bent wood furniture makers were well represented by the Austrian Bent Wood Co. and Messrs. J. and J. Kohn.

American manufacturers were, as usual, well to the fore. Messrs. Angus and Co., of Wenlock-street, E.C., had a large show of American furniture. Messrs. Wyatt and Co., London and Liverpool, and Messrs. H. L. Judd and Co., importers of American specialties, also exhibited. Among the exhibits were those of Messrs. Phillips and Messrs. Osler, both well known for the high class of the glass and china goods supplied by them.

The stands of the Lincrusta Walton Co., and of the Papyrotile Co., new wall decorations, attracted much attention.

Messrs. Steward and Co., of Newgate-street, showed some patent spring mattresses, a patent spring bed, canvas cot, and the new centrifugal cinder-sifter, which we have before noticed in these columns. Messrs. Treloar and Sons and W. Dagnall each had looms at work mat making.

Parquet floorings, linoleum, and other novelties were to be seen, as also some fine exhibits of cabinet brass and iron and locks, varnishes and stains, and polishes for furniture. Among the last was that of Mr. Williams, of Liverpool, who has quickly established a good reputation. Mr. George Edwards made a fine show of billiard tables.

THE CROMPTON ELECTRIC LIGHT.—The King's Cross Station of the Great Northern Railway is now lighted by means of electricity, a beginning having been made very recently. The peculiarity of the Crompton system is that arc lights of large size are used, which are produced by self-regulating lamps, three or four being placed upon the same circuit. There are 12 Crompton lamps within the station, six being placed over the arrival, and a similar number over the departure, platform. Two other lamps of larger size are placed outside the station building. The lamps are suspended at a height of 30 feet from the platform level, and are arranged on four circuits, the light of each lamp being computed as equivalent to 4,000 candles. The two exterior lights are estimated at 6,000 candles each, and are placed at an altitude of 70 feet, the lanterns being of clear glass. The current is supplied by means of five Burgin dynamo-electric machines, which are driven by a 12-horse semi-portable engine by Messrs. Marshall, Sons and Co., of Gainsborough, working up to 35-horse power, and having been designed and constructed specially for its present work

FOR SALE, 400 Pendleton Medium Shuttles, made by the late Pendleton Company, in any quantity at 1s. each.—Apply to O. Robinson and Co., Champion Sewing Machine Works, Kettering.

TO BE SOLD CHEAP, about 100 Sewing Machines (Wilcox and Gibbs pattern). Some made to make a stitch 3-8in. long.—For price and particulars, apply O. Robinson and Co., Champion Iron Works, Kettering.

ABOUT 300 Wheeler and Wilson Hooks and other fittings, and about 100 Beds, bored, planed, and cut, and part japanned. Lot to be sold cheap in parts.—Apply, O. Robinson and Co., Sewing Machine Manufacturers, Kettering.

O. ROBINSON and CO., Sewing Machine Manufacturers, Kettering, Makers of the Family and Medium Machine, in any quantity, finished in any style to suit customers. Heads only, or mounted on stands complete. Iron work, suited to the Singer Machine, fitted or unfitted,—O. Robinson and Co., Patentees, Iron and Brass Founders, Sewing Machine Manufacturers, and Engineers, Champion Works, Kettering.

PARTNER WANTED in a well-established Domestic Machinery Business in a large provincial town. To a steady practical man who can do repairs, this is an excellent opening. Capital required about £200.—Address, A. B. C., *Sewing Machine Gazette* Office, 4, Ave Maria-lane, E.C.

EXHIBITORS' OPINIONS ON THE FIRST ANNUAL FURNITURE TRADES EXHIBITION.

THE ADDLESTONE LINOLEUM CO., Moorgate Street.—"Reserve our Bay, we have done plenty of business."

Messrs. W. ANGUS & Co., Wenlock Street, City Road.—"We wish you all success with next year's Exhibition; please reserve double the size space."

Messrs. ARMAND GROSSETÊTE & Co., 8, 10, 11, Cranbourne Street, Leicester Square.—"We desire to make a larger show and we will take two Bays instead of one, for your next year's Exhibition, and enclose our cheque for same."

Messrs. W. BAILEY & SON, Curtain Road, E.C.—"We will take space five times the size of last for next year. Cheque enclosed herewith."

Messrs. BARCLAY & SONS, 131, Regent Street, W.—"We shall want space in your next year's Exhibition, also page advertisement in the Official Catalogue."

Messrs. CARTER & AYNSLEY, 54, Bishopsgate Street, E.C.—"We shall want double space next time, and enclose cheque to secure the same, please send receipt."

Messrs. CHORLTON & DUGDALE, Blackfriars, Manchester.—"Reserve us same position for your next Exhibition, we were well pleased with the last."

Messrs. C. CHURCHILL & Co., Wilson Street.—"Your Exhibition has quite answered our expectations, we will take same space again."

Messrs. CLARK, BUNNETT & Co., Limited, Rathbone Place,—"We wish you to reserve us same space as in last Exhibition, and now forward you our cheque, which please acknowledge."

Messrs. CONRATH & SONS, 15 and 40, North Audley Street, W.—"Let us have a larger space reserved for next year, we intend to make a good show."

Messrs. COX & SON, High Wycombe.—"The Exhibition has fully answered our expectations. We enclose cheque for space for next year."

Mr. W. DAGNALL, Walham Green.—"The first day's business paid all my expenses; keep me double space."

Messrs. A. DAW-KERRELL & Co., Argyle Square.—"Reserve my space for next year, I have done well."

Mr. JULIUS A. DIENTJE.—"Let me have double space for next year if you can, cheque enclosed."

Messrs. DREW & CADMAN, 245, High Holborn.—"We were thoroughly well pleased with the business done at your Furniture Exhibition."

Mr. GEORGE EDWARDS, 182, Kingsland Road, N.—"I have booked some good orders this time! don't forget to keep me a good position for next year."

Mr. MAURICE GANDY, 130, Queen Victoria Street, E.C.—"Reserve me space for next year; I am quite satisfied, enclosed is cheque for the same."

Messrs. GUDGEON & SONS, The Piazza, Winchester.—"We want double the space for next year, and as nearly the same position as possible; cheque sent herewith."

Mr. T. HANSELL, St. Albans.—"I am very glad indeed that I exhibited; reserve me same space."

Mr. H. HERMANN, Dod Street, Limehouse.—"Please allot me space next year four times the size of the present one if you can spare it."

Messrs. HODKINSON & CLARKE, Small Heath, Birmingham,—"Allot us same position as last, we are thoroughly satisfied with the whole arrangements, and with the business done at the last."

Mr. JULIUS JANSEN, 3, Melton, Street, Euston Square, N.W.—"Let me have double space next year, I have booked good orders, and opened many new accounts."

THE LINCRUSTA WALTON Co., Sunbury-on-Thames.—"The Exhibition has pleased us very much, we shall take double space next year."

Mr. JAMES LODER, Cheltenham.—"The orders booked and communications received through your Show are very gratifying.

Messrs. G. S. LUCRAFT & SONS, City Road.—"We have made a great many new customers through the Exhibition."

Messrs. MOORE & HUNTON, Worship Street, E.C.—"Please reserve us an entire block of sixty-six feet for next year, if you can spare it."

THE MYATT POTTERY Co., 15, Charterhouse Street.—"The business done at your Exhibition has exceeded our expectations, we shall exhibit again next year."

Messrs. B. NORTH & SONS, West Wycombe.—"We have done good business through the Exhibition, and shall want our space reserved for us again."

Messrs. F. & C. OSLER, 45, Oxford Street, W., and Birmingham.—"We shall have much pleasure in meeting you again in May next, at the Agricultural Hall, and shall be willing to retain our old position and spaces if your arrangements will admit of our doing so. You have done wisely in holding your next Exhibition in May instead of August."

Mr. M. W. OVENS, Great Eastern Street.—"I shall want more space for the next Show, send me form of application."

Messrs. PONTIFEX & WOOD, Shoe Lane, E.C.—"Your Exhibition has brought us plenty of new business. We shall want larger space next year."

Mr. W. POTTER, Great Eastern Street, E.C.—"Please keep my space for next year, I have done very well."

Messrs. W. RAMSAY, Limited.—"Please book my space for next year, I am perfectly satisfied."

Mr. GEO. SIMS, 72 to 77, Aldersgate Street, E.C.—"I shall go in for much larger show next time; see me as early on the subject as you can."

Mr. W. SKULL & SON, High Wycombe.—"Reserve my Bay same as last, and a page advertisement in Catalogue, same position."

Mr. G. A. SMITH, 253, Euston Road.—"Your Exhibition has given me enough orders to last me some months to come; I want double space next year."

Mr. MAX SUGAR, 7, Thavies Inn, E.C.—"I am quite satisfied with the business done; book me the same position for next year."

Messrs. TRELOAR & SONS, 69, Ludgate Hill, E.C.—"We were quite satisfied with your show, and enclose our cheque for the same Bay for next year; we may probably want another, will let you know in a few days."

Messrs. W. H. & S. G. VAUGHAN, 330, to 337, Old Street, E.C.—"We should like longer space, say about 40ft. by 12ft. for next year, we are quite satisfied with results."

Messrs. WALMSLEY & LEWIS, Park Street, N.—"Please reserve us same space as now for your next year's Exhibition we wish you all success."

Messrs. W. WALLACE & Co., Curtain Road.—"Your Furniture Exhibition has brought us a very large accession of business, please reserve our space as before."

Messrs. WELLS & Co., Shoreditch.—"We intend to be with you next year, when we are sure it will be a very big thing.'

Mr. S. B. WHITFIELD, Birmingham.—"I am entirely pleased with results, secure me double space for next year."

Messrs. H. B. WYATT & Co., 2, Star Court, E.C., and Liverpool.—We want a space four times the size for the next Exhibition; let us see a plan at once, showing positions available."

Edinburgh Bicycle & Tricycle Exhibition, Dec., 1880

Where the Latest and Most Improved Machines for the Present Season were Exhibited.

THE ONLY SILVER MEDALS FOR

BEST ROADSTER BICYCLE AND BEST ROADSTER TRICYCLE

Were awarded to the "CENTAUR" COMPANY COVENTRY,

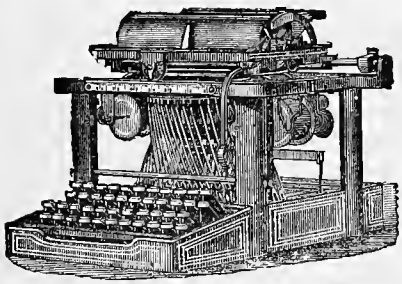
THE TEST BEING

EXCELLENCE of WORKMANSHIP, INGENIOUS CONSTRUCTION, and EASE of PROPULSION

Full Descriptive Catalogues of the "Centaur" Bicycle and Tricycles, with Testimonials, Post Free on Application.

LIBERAL DISCOUNT TO SHIPPERS AND THE TRADE. RELIABLE AGENTS WANTED.

THE REMINGTON TYPE-WRITER DEPÔT, 6, KING STREET, CHEAPSIDE.

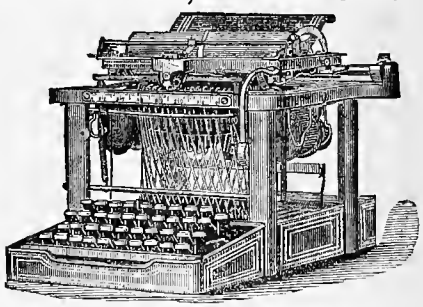


NO. 4. PERFECTED TYPE-WRITER.

It is portable, durable, and finished in the style of No. 2; the working parts are exposed to view.

A Machine to supersede the pen for manuscript writing, correspondence, &c., having twice the speed of the pen, is always ready for use, simple in construction, not liable to get out of order, easily understood, and any one who can spell can write with it. It is used in Government offices, by Merchants, Bankers, Lawyers, Clergymen, Doctors, Scientists, &c., &c., &c. Its advantages are great and numerous, and no one ought to be without one.

PROVINCIAL AGENTS WANTED.



NO. 2. PERFECTED TYPE-WRITER.

This machine prints Upper and Lower Case (capital and small) type, portable.

BEEMAN & ROBERTS, Sole Agents for the United Kingdom.

THE NEW STRAIGHT NEEDLE MACHINE

"Phœnix,"

Made on the new Wheeler and Wilson's principle (No. 8).

LATEST IMPROVEMENT: THE LOOSE WINDING WHEEL.

NEW HAND MACHINES ON THE SAME PRINCIPLE.

NOISELESS, LIGHT RUNNING AND DURABLE.

BAER & REMPEL, Billefeld, Germany. Sewing Machine Manufacturers.

PRIZE MEDALS AWARDED, VIENNA 1873, PARIS 1867.

"The Coventry Triumph" Bicycles & Tricycles.

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WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

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MANUFACTURERS OF THE "EXPRESS" BICYCLE,

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BICYCLE FITTINGS OF EVERY DESCRIPTION.

WHOLESALE AND FOR EXPORTATION.

THE LARGEST SEWING Machine "Belt" Manufacturers.

THE LARGEST SEWING Machine Oil Manufacturers.

THE LARGEST SEWING MACHINE Fittings Warehouse.

Bishop's Cluster Company, Limited, 25, Hamsell St., London, E.C.

SEWING AND MACHINE NEEDLES.

ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,

THE PARK WOOD MILLS CO.,

NEEDLE MANUFACTURERS,

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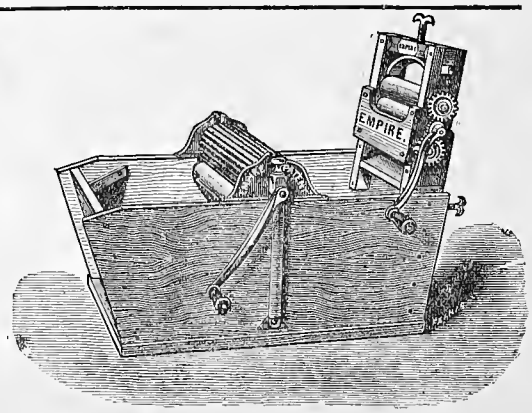

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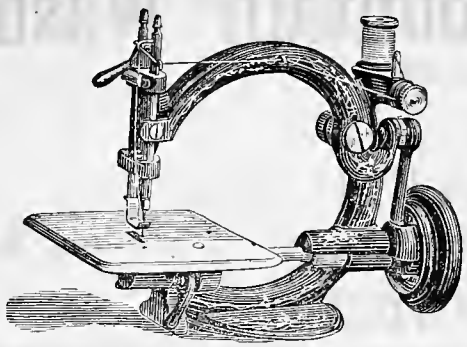

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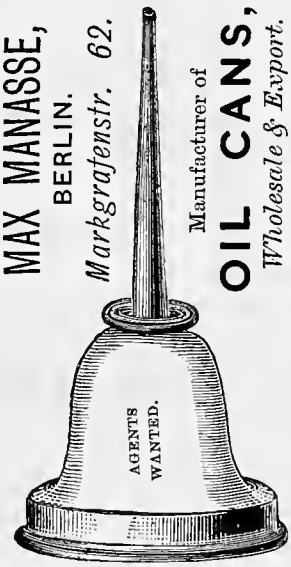

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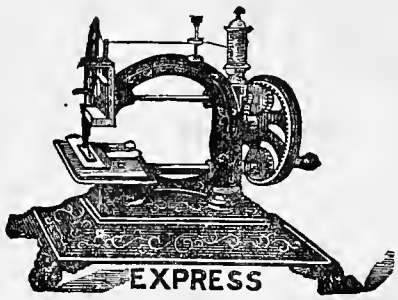

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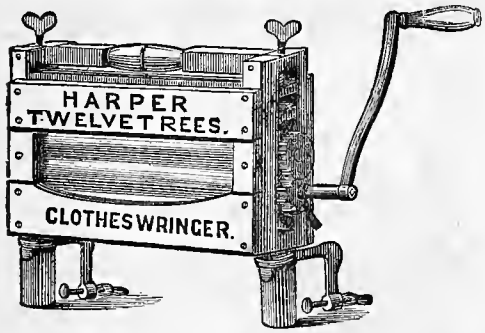

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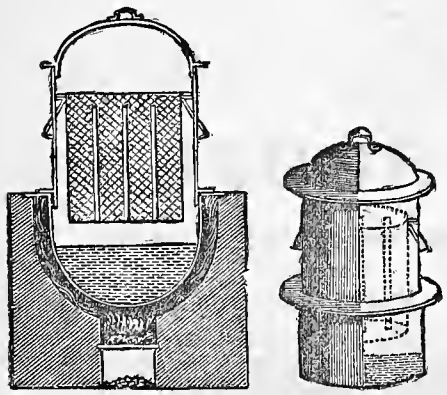

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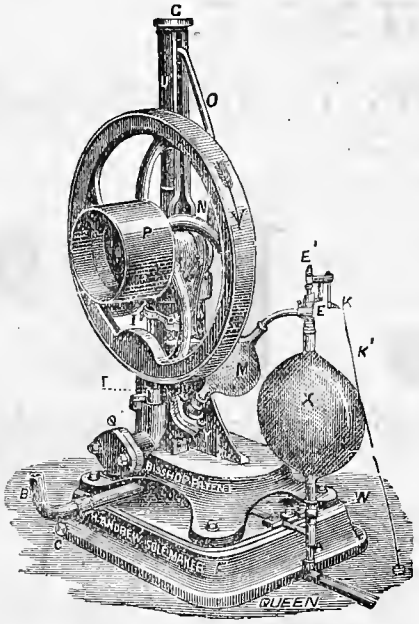

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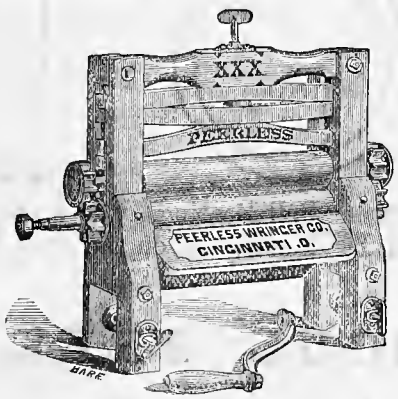

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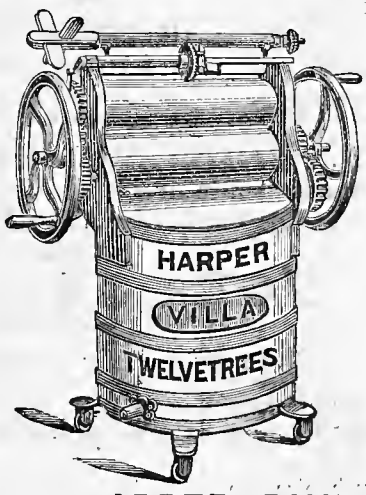

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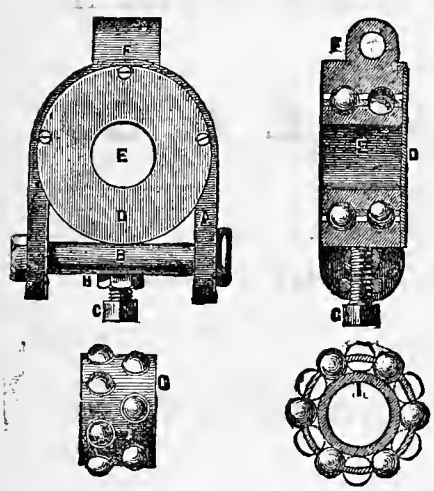

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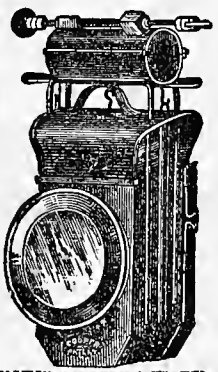

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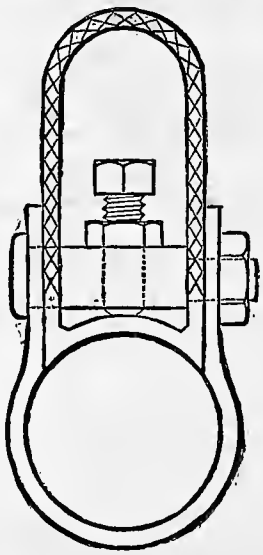

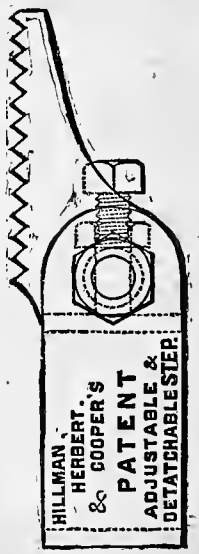

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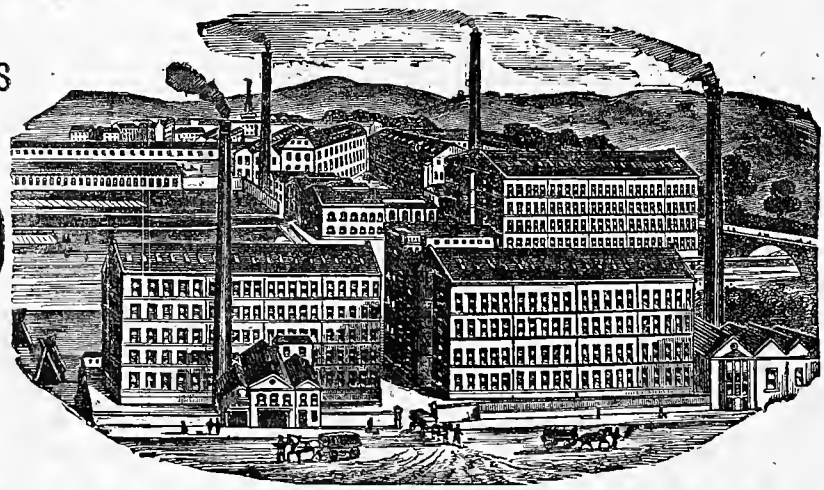

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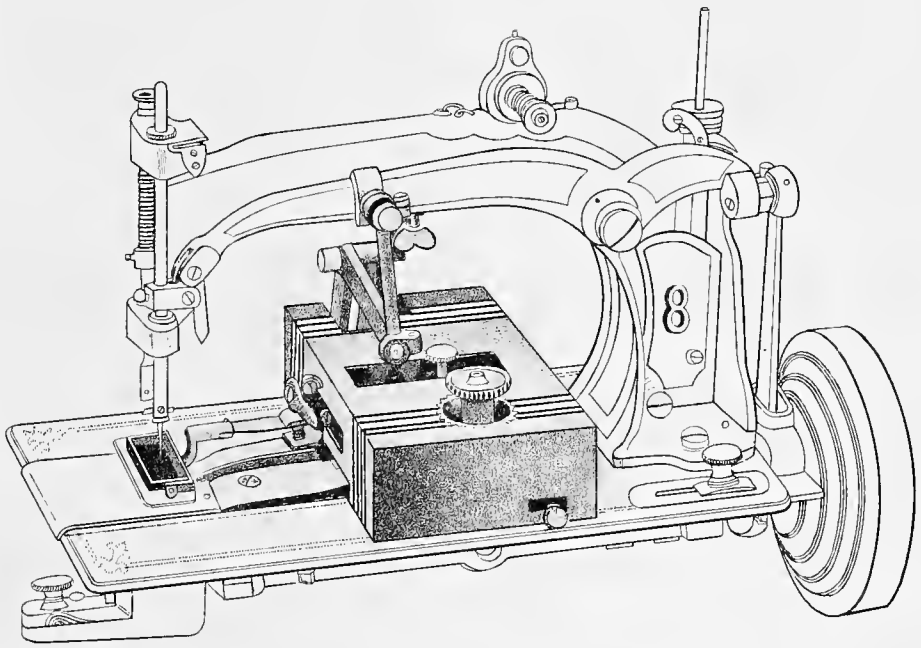

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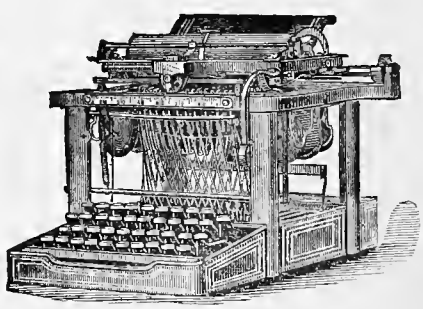

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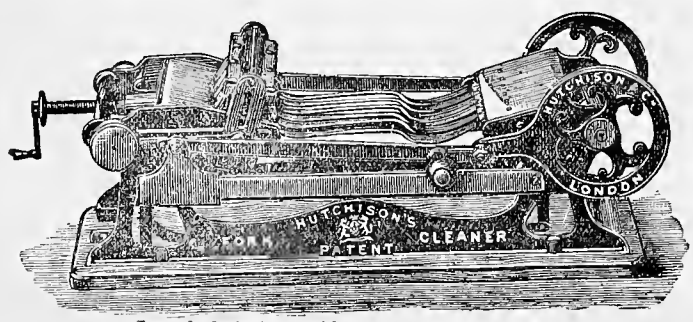

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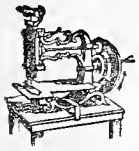

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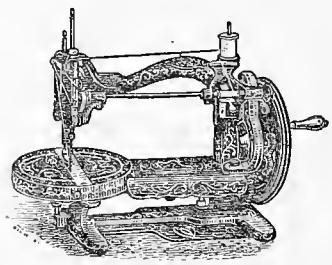

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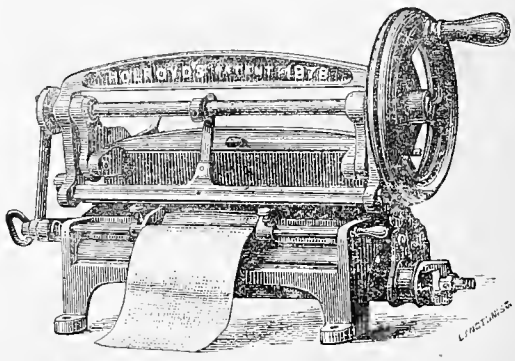

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BUSINESS.—Page 179: "From every pulpit and in every school throughout the kingdom the justification of double dealing and trickery upon the plea that it is impossible to get a living honestly by trade, or in any vocation, should be denounced in the most unmistakeable language as a libel on Providence, and the failure to succeed be attributed to its real cause—the man's ignorance of or incapacity for the business or profession he follows."

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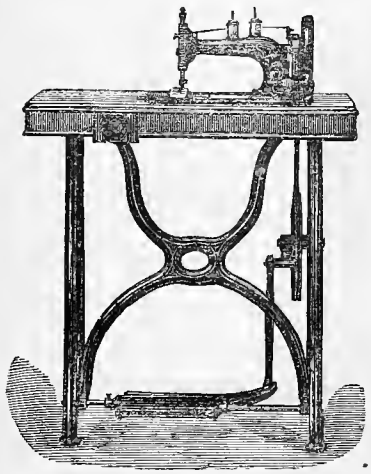

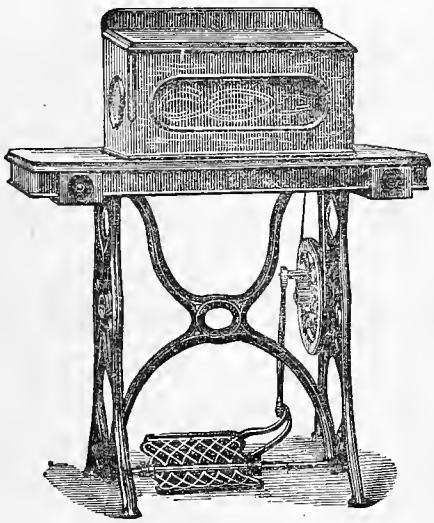

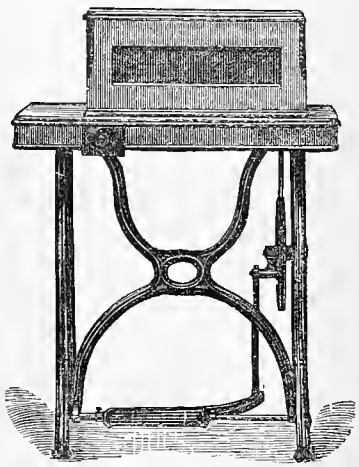

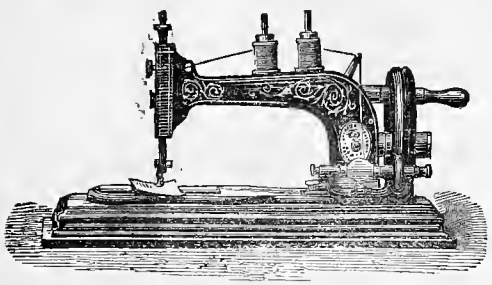

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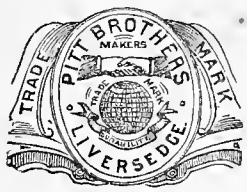

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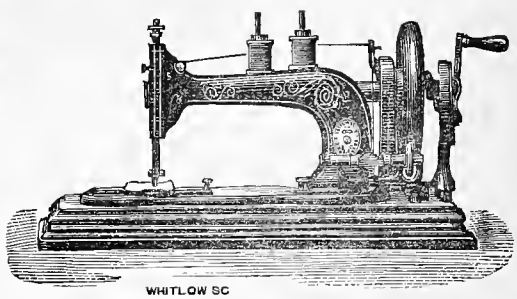

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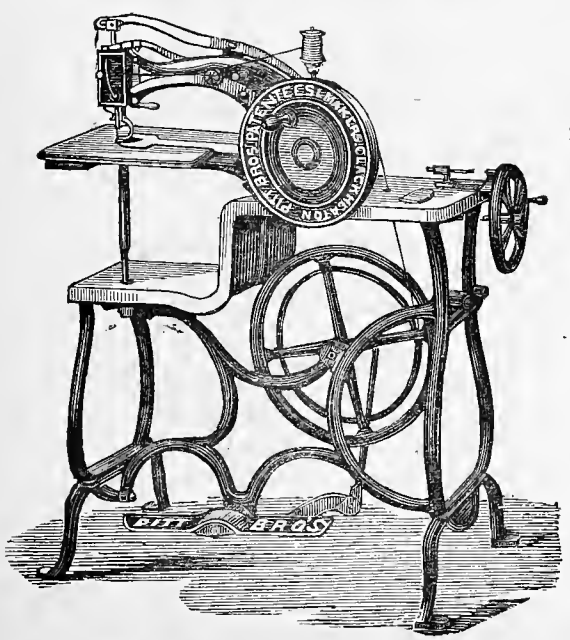

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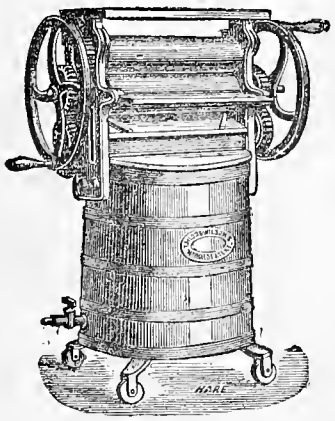

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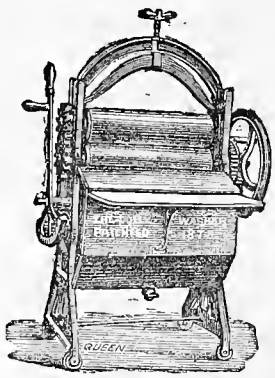

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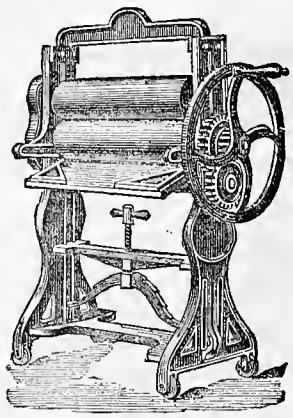

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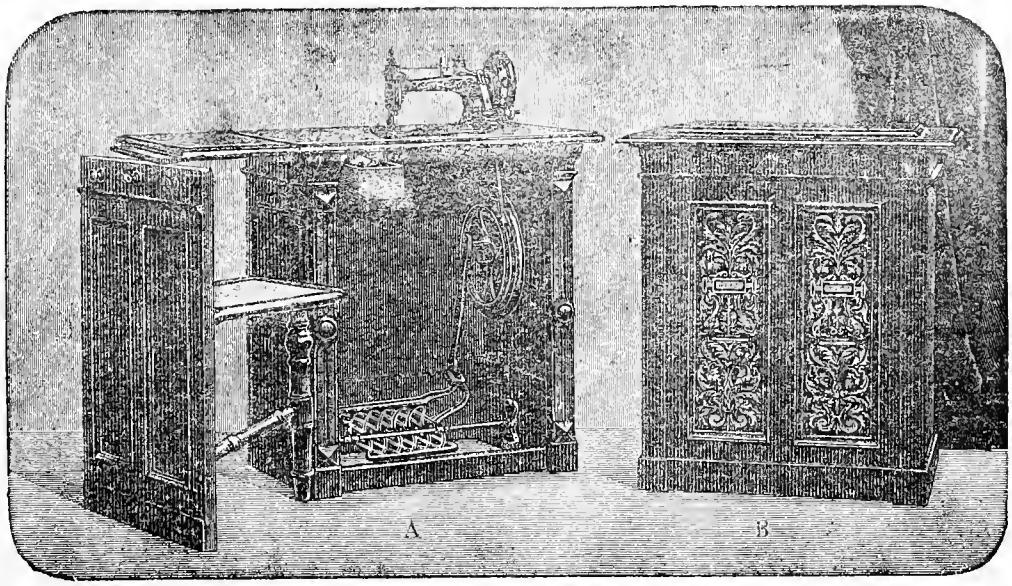

The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Wi thdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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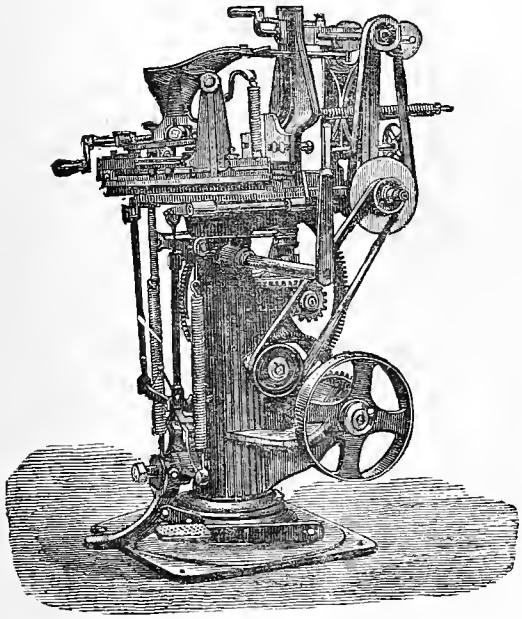

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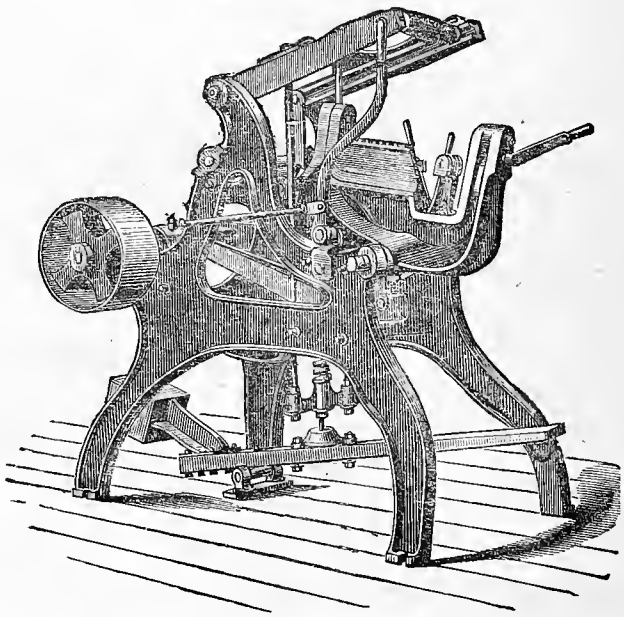
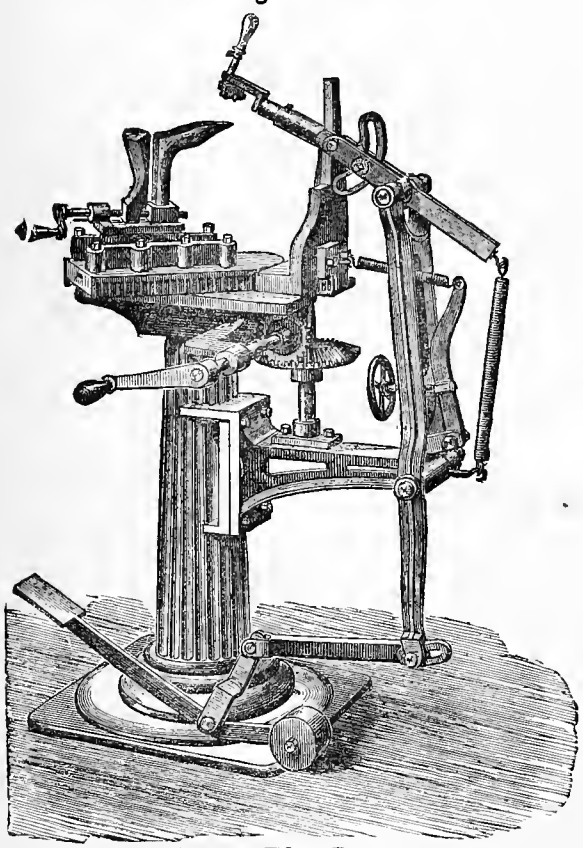


Gilmore Leveller.



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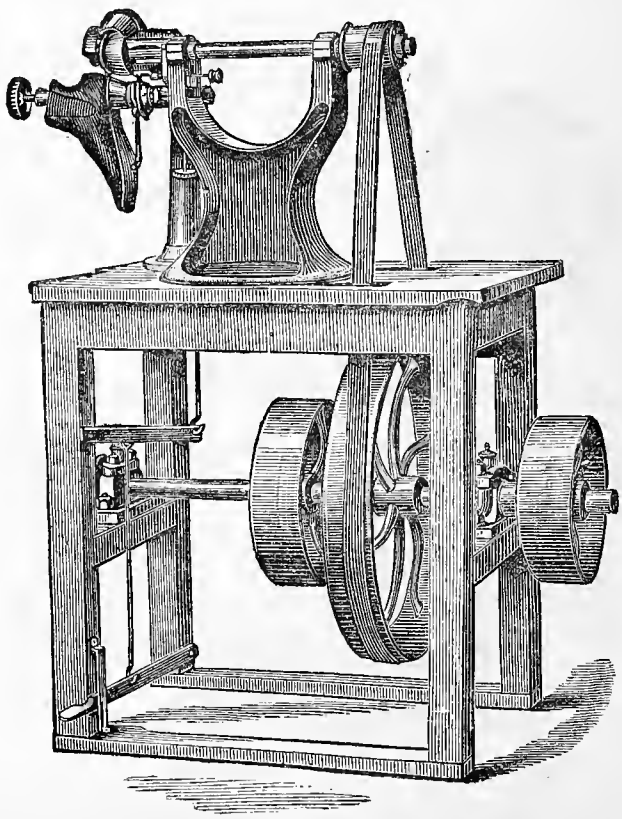

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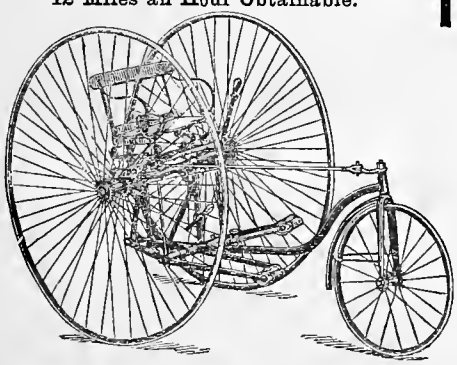

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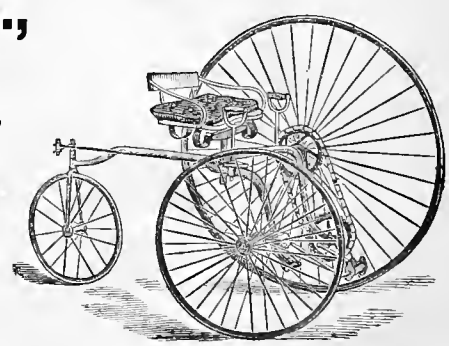

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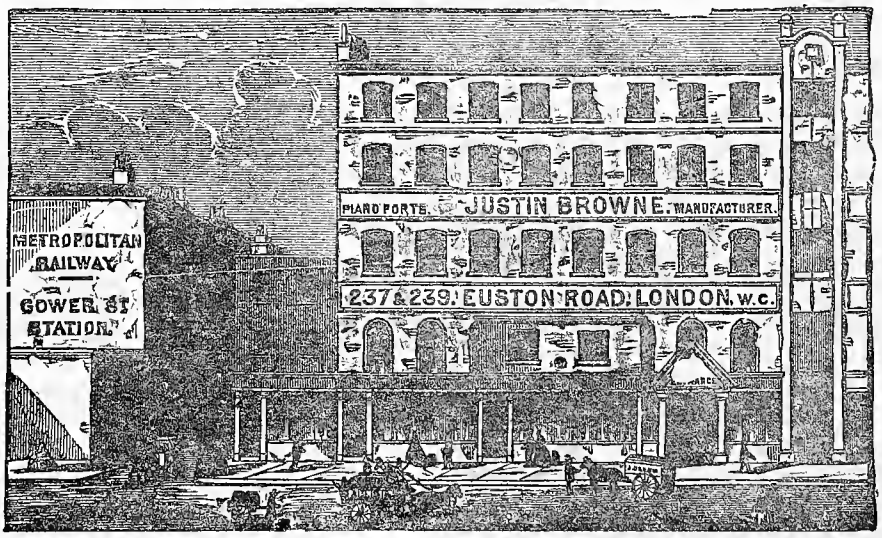

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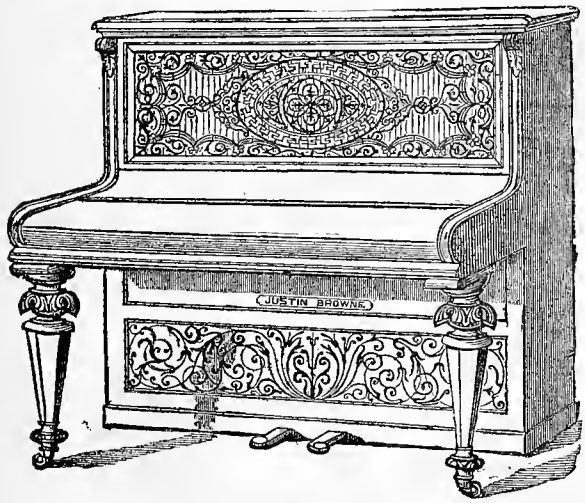

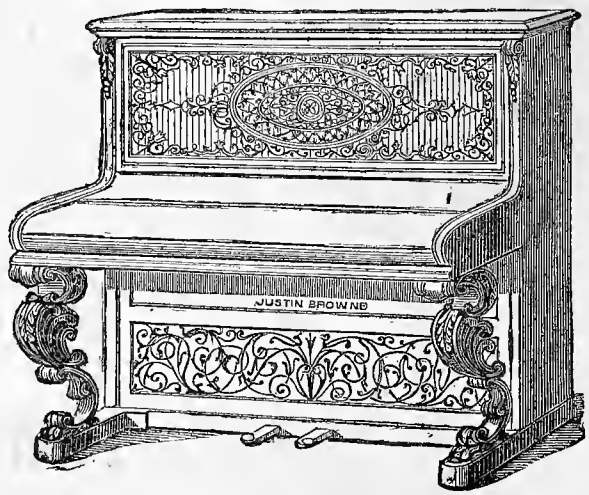

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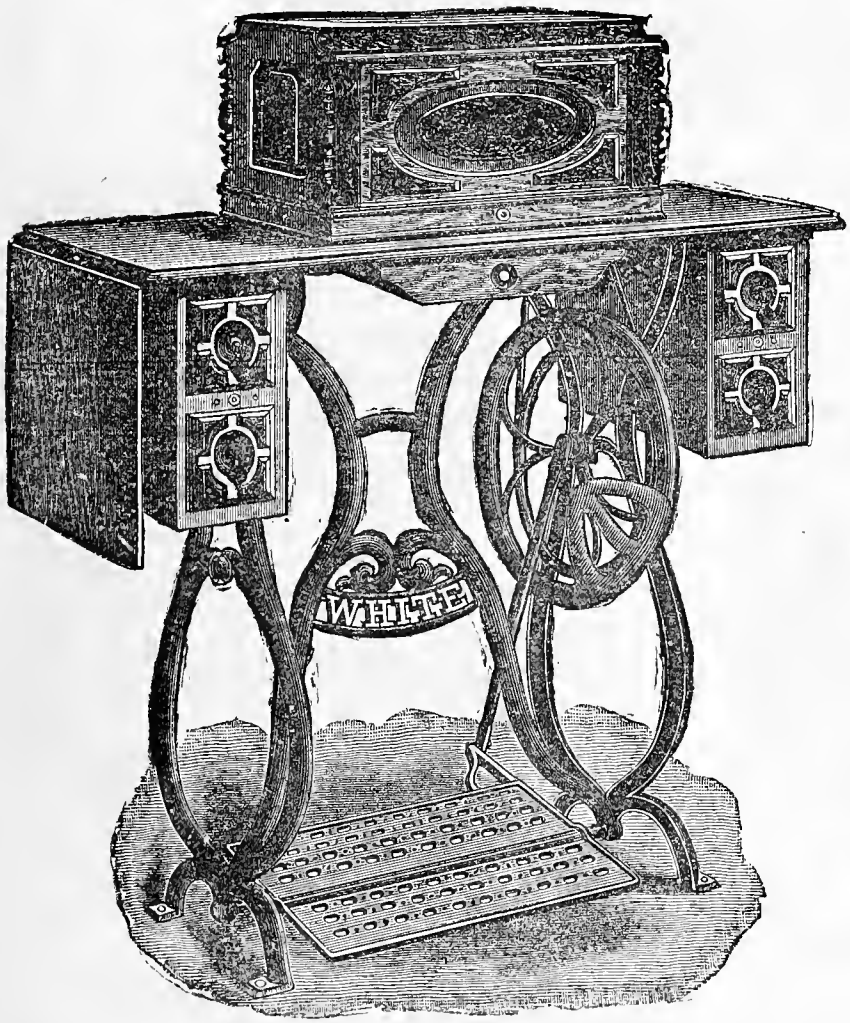

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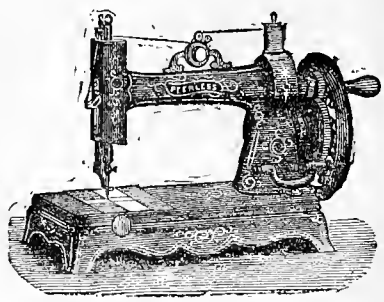

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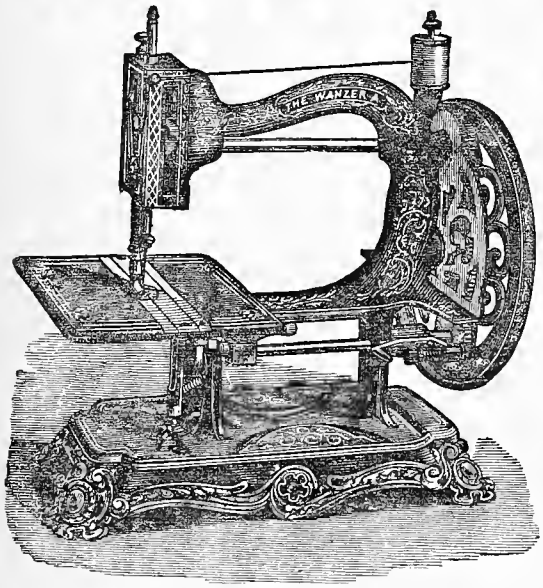

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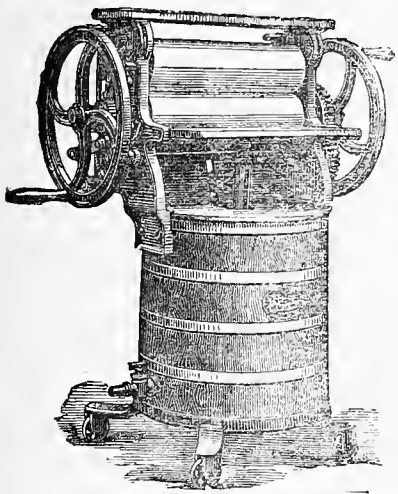

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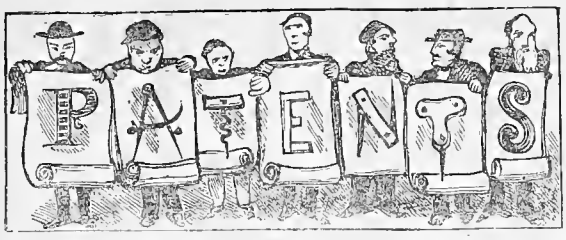

The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 3,397. W. and T. Wild, both of Stewarton, Ayrshire, North Britain, Machinists, for improvements in machinery for the manufacture of knitted fabrics for making Scotch bonnets and other articles. Dated August 5, 1881.

„ 3,398. G. P. Leigh, of Manchester, for improvements in the construction of machines known as slubbing, intermediate, and roving frames, used in the preparation of cotton and other fibrous substances for spinning. Dated August 5, 1881.

„ 3,408. G. Strickland, of Valletta, Malta, for improvements in bicycles and other velocipedes. Dated Aug. 6, 1881.

„ 3,420. A. W. Adams, of Southampton, for improvements in fastening for wearing apparel and other purposes. Dated August 8, 1881.

„ 3,422. F. L. Mitchell, of Violet-street, Halifax, Pianoforte Maker, for improvements in or relating to the construction of pianoforte actions. Dated Aug. 8, 1881.

„ 3,432. W. R. Foster and T. J. Williams, both of Grange-road, Bermondsey, London, for improvements in securing indiarubber tyres to wheels of bicycles, tricycles, and other vehicles. Dated August 8, 1881.

„ 3,462. D. Stewart, of Glasgow, Engineer, for improvements in machinery for beetling, calendering, or finishing woven fabrics, felt, paper, and yarns. Dated August 10, 1881.

„ 3,480. J. Heaton, of Bradford, Wool Comber, for improvements in machinery for combing wool and other fibres. Dated August 11, 1881.

„ 3,522. A. Paget, of Loughborough, Leicestershire, for improvements in knitting machinery. Dated August 13, 1881.

„ 3,533. C. S. Schneider, of Chelsea, London, for improvements in crinolines. Dated August 15, 1881.

„ 3,547. A. Francois, of Douai, France, for improvements in sewing machines. Dated August 16, 1881.

„ 3,572. G. Richards, of City-road, Manchester, and B. C. Filghman, of Gray's-inn-road, London, for improvements in velocipedes. Dated August 17, 1881.

„ 3,573. A. Ball, of Spalding, Lincolnshire, Physician and Justice of the Peace, for improvements in a smoke-consuming grate for warming and cooking purposes, including warming, ventilating, and disinfecting buildings, by influx and efflux ventilation. Dated August 17, 1881.

„ 3,576. M. A. Weir, of Gracechurch-street, London, for improvements in velocipedes. Dated Aug. 17, 1881.

„ 3,587. A. W. Robinson, of Birmingham, Mechanical Engineer, for improvements in bicycles and other velocipedes. Dated August 17, 1881.

„ 3,590. C. A. Barlow—a communication from J. Halter, of Bebstein, Switzerland, for improvements in machine embroidery, and in the process and apparatus for manufacturing the same. Dated August 17, 1881.

, 3,595. C. Collard, of Oval-road, Camden Town, London, for improvements in the construction of pianofortes. Dated August, 18, 1881.

„ 3,608. J. T. Shaw and H. D. Meredith, both of Manchester, for improvements in or applicable to perambulators. Dated August 19, 1881.

„ 3,610. H. M. Mellor, of Arkwright-street, Nottingham, for improvements in the manufacture of circular-ribbed fabrics, and in circular hosiery frames to be used for this purpose. Dated August 19, 1881.

„ 3,623. C. Toope, of Stepney, London, for improvements in bicycles and tricycles. Dated August 19, 1881.

„ 3,631. T. Goldie, of Airdrie, Lanarkshire, North Britain, Manufacturer, for improvements in machinery or apparatus for sizeing or dressing yarns or threads. Dated August 20, 1881.

„ 3,637. W. Webster, of San Francisco, United States, for improvements in sewing machines for stitching sacks, bags, ships' sails, carpets, and for other like purposes. Dated August 20, 1881.

„ 3,684. W. G. Hammon, of Coventry, for improvements in driving gear for velocipedes. Dated August 24, 1881.

„ 3,688. A. Watkins, of St. George's-square, Regent's Park-road, London, Horogolist, for improvements in sewing machines, and in apparatus for driving the same, so as to render them self-acting. Dated August 24, 1881.

„ 3,697. G. R. Godsall and J. C. C. Read, of Birmingham, Manufacturers, for an improved bicycle lamp. Dated August 25, 1881.

„ 3,699. J. Sefton, of Belfast, Mechanical Engineer, for improvements in hem-stitching and other sewing machines. Dated August 25, 1881.

„ 3,716. J. I. Warman, of Coventry, for certain improvements in chains applicable to the transmission of motive power known as pitch chains, and to the wheels or pulleys on which they work, applicable to velocipedes, hoisting machines, and other mechanical purposes. Dated August 25, 1881.

„ 3,723. F. Caldwell, of Loughborough, Leicestershire, for improvements in machinery and apparatus to be employed in the manufacture of knitted fabrics. Dated August 26, 1881.

„ 3,744. E. C. F. Otto, of Peckham, London, for improvements in bicycles and other velocipedes. Dated August 27, 1881.

„ 3,760. H. Bland, of Luton, Bedfordshire, for improvements in sewing machines. Dated August 29, 1881.

„ 3,763. J. K. Starley, of the Meteor Works, Coventry, for improvements in driving velocipedes, and in apparatus employed therein. Dated August 30, 1881.

„ 3,764. J. K. Starley, of the Meteor Works, Coventry, for improvements in and appertaining to velocipedes. Dated August 30, 1881.

„ 3,769. E. A. Smythe, of Melcombe-place, Dorset-square, London, for an improved method or apparatus for propelling velocipedes. Dated August 30, 1881.

„ 3,774. A. M. Clarke—a communication from J. K. Harris, of Springfield, Ohio, United States, for improvements in button-hole attachments for sewing machines. Dated August 30, 1881.

„ 3,782. J. White, of Earlsdon, near Coventry, Watch Manufacturer, and J. Asbury, of Coventry, Machinist, for improvements in the construction of velocipedes. Dated August 30, 1881.

„ 3,787. H. Wilkinson, of St. Aubin Villas, Stamford Hill, London, Engineer, for improvements in velocipedes. Dated August 31, 1881.

„ 3,803. W. R. Lake—a communication from H. Bond, of Haverhill, Massachusetts, United States, for improvements in sewing machines. Dated September 1, 1881.

„ 3,805. J. Humpage, of Brunswick-street, Bristol, Engineer and Machinist, for improvements in velocipedes. Dated September 1, 1881.

Letters Patent have been issued for the following:—

No. 619. R. Macaulay, and J. Ballintine, of Glasgow, for improvements in gas-heated smoothing irons. Dated February 14, 1881.

„ 668. H. J. Swindley, of Kensington, London, Civil Engineer, for improvements in bicycles and other velocipedes. Dated February 16, 1881.

„ 671. A. Kirby, of Harpur-place, Bedford, for improvements in the construction of velocipedes and appa-

ratus connected therewith. Dated February 16, 1881.

No. 684. G. A. J. Schott, Bradford, Manufacturer, for improvements in the manufacture of fancy yarns, and in the apparatus employed therein. Dated February 17, 1881.

„ 753. G. W. Ash, of Russell-street, Southsea, for improvements in or applicable to bicycles. Dated February 22, 1881.

„ 754. G. Singer, of Coventry, Warwickshire, and A. W. Metcalfe, of Clifton, Gloucestershire, Engineering Student, for improvements in bicycles and other velocipedes. Dated February 22, 1881.

„ 763. J. and J. C. Buckley, both of Leeds, for improvements in apparatus for pressing, smoothing, and finishing garments or parts of garments, also for pressing woollen or other woven or felted fabrics. Dated February 23, 1881.

„ 860. L. Appleton, of Brecknock-crescent, London, for improvements in machinery or apparatus for cleaning knives. Dated March 1, 1881.

„ 911. J. and C. E. Challis, both of Sydney-road, Homerton, London, for improvements in or relating to velocipedes, applicable in part to other purposes. Dated March 3, 1881.

„ 948. W. A. Barlow—a communication from W. v. Krause, of Neusalz af Oder, Germany, for a new or improved meat chopping or mincing machine. Dated March 5, 1881.

„ 972. C. G. Hawkins, of Leyton-road, Forest Gate, London, for improvements in tricycles and other velocipedes. Dated March 7, 1881.

„ 988. E. C. F. Otto, of Springall street, Peckham, London, for improvements in wheels for velocipedes and other vehicles. Dated March 8, 1881.

„ 1,001. R. C. Fletcher, of Tarleton Rectory, near Preston, Clerk in Holy Orders, for improvements in velocipedes. Dated March 9, 1881.

„ 1,136. W. R. Lake—a communication from F. G. Lange, of St. Acheul-les-Amiens, France, for improvements in machinery for combing wool and other fibrous materials. Dated March 16, 1881.

„ 2,060. A. M. Clark—a communication from Mrs. A. Dormitzer, of New York, United States, for an improved window-cleaning chair, applicable also for other purposes. Dated May 11, 1881.

„ 2,390. W. R. Lake—a communication from A. K. Hebard, of Cambridge, Massachusetts, United States, for improvements in pianofortes. Dated May 31, 1881.

„ 2,424. G. F. Elder, of Lockee, Forfarshire, North Britain, for improvements in overhead sewing machines. Dated June 2, 1881.

„ 2,428. J. Hargrave, of Burley, Leeds, Gentleman, for improvements in machinery or apparatus for cleaning and polishing knives. Dated June 2, 1881.

„ 2,917. G. W. von Nawrocki—a communication from A. Engische, of Basle, Switzerland, for an improved construction of thread bobbins or winders for sewing machines and other purposes. Dated July 4, 1881.

PATENTS WHICH HAVE BECOME VOID:—

No. 3,047. H. W. Hemsworth—a communication from H. Alm, of Brandenburg, Germany, for improvements in pianoforte actions. Dated August 1, 1878.

„ 3,053. H. J. Haddan—a communication from H. P. Henrickson, of Paris, for improvements in sewing and in machinery therefor. Dated August 2, 1878.

„ 3,083. A. Westerby, of Hoxton, London, for improvements in machines for ironing articles of wearing apparel. Dated August 3, 1878.

„ 3,090. M. H. Pearson, of Leeds, for improvements in sewing machiues. Dated August 3, 1878.

„ 3,106. E. Edmonds—a communication from R. M. Wanzer, of Hamilton, Ontario, Canada, for improvements in plaiting machines. Dated August 6, 1878.

„ 3,126. M. Doubleday, of Old Radford, Nottingham, Slater, and T. Humber, of Queen's-road, Nottingham, Bicycle Manufacturer, for an improved tricycle. Dated August 8, 1878.

„ 3,291. J. Wechselmann, of Berlin, for certain improvements in looms for manufacturing regularly knitted hosiery. Dated August 21, 1878.

„ 3,302. C. H. Butterworth de Botwor, of Belsize-square, South Hampstead, London, for improvements in tricycles. Dated August 22, 1878.

„ 3,303. W. Bown, of Birmingham, Manufacturer, for certain improvements in attachments and accessories for sewing machines, parts of which are applicable for other useful purposes. Dated August 22, 1878.

Specifications Published During the Month.

Postage 1d. each extra.

			s.	d.
		1880.		
No.	5,432.	J. Harrington, tricycles, &c.	0	2
„	5,511.	J. Starley, velocipedes	0	6
		1881.		
„	41.	J. and H. Kiddier, knitting machinery... ...	1	4
„	55.	J. Hughes, apparatus for washing linen, &c. ...	0	2
„	61.	J. Holden, actuating sewing machines, &c. ...	0	6
„	64.	T. Coltman, knitting machines	0	2
„	80.	J. Coates, jun., holders or supports for sewing-thread spools or bobbins	0	2
„	89.	R. C. Fletcher, velocipedes	0	2
„	97.	J. Stubley, knitting machinery	0	6
,	165.	J. H. Johnson, carpet cleaning machines ...	0	6
„	188.	J. C. Mewburn, sewing machines	0	4
„	231.	J. Watterworth, perambulators, &c.	0	2
„	259.	G. Illston, tricycles, &c.	0	2
„	260.	J. Turner, J. A. Lamplough, and G. F. Brown, seats of tricycles, &c.	0	6
„	263.	J. H. Smith, knitting machines, &c.	0	2
„	273.	J. Wetter, knitting machines	0	2
„	282.	E. R. Settle, velocipedes	0	6
„	305.	A. C. Henderson, gas stoves	0	6
„	326.	R. H. Brandon, sewing machines, &c.	0	10
„	356.	T. Warwick, bicycles, tricycles, &c.	0	2
„	367.	J. H. Johnson, apparatus for starting, stopping, and regulating the motion of sewing machines, &c....	0	6
„	391.	T. Tongue and T. E. Bladon, bicycle and tricycle lamps, &c.	0	2
„	461.	H. Dobson, skates	0	4
„	503.	J. P. Becker, jun., skate	0	6
„	1,988.	A. Munzinger, machines for spinning carded wool, &c.	0	6

EXHIBITION OF GAS APPLIANCES.

An interesting exhibition of apparatus and appliances illustrative of the manner in which gas may be utilised for light, heat, and motive power, has been held at the Town Hall, Weston-super-Mare, under the auspices of the directors of the Gas Company, and under the direction of their surveyor, Mr. J. W. Helps. The exhibitors were 24 in number, and included, among lamp manufacturers, Messrs. Bray and Co. and Messrs. Sugg; Mr. C. Wilson (Leeds), Carlton and Eclipse kitcheners, stoves, and grillers; Messrs. Davis and Sons (Bath), gas stove makers; Messrs. John Wright and Co. (Birmingham), 23 cookers, kitcheners, roasters, grillers, and stoves; Messrs. Webster and Co. (Nottingham), duplex system of lighting, patent gas fire, sanitary stoves, and system of heating for large buildings; Messrs. S. Leoni and Co., family kitcheners, stoves for use by various trades, hot plates, boiling stoves, and gas fires; Messrs. Verity Bros. (London), patent gas fire, which may be used in an ordinary fireplace, circulating copper boilers, and combined boilers and coils for warming halls, conservatories, &c.; Messrs. Stark and Co. (Torquay), several stoves and gas-pressure regulator; Mr. T. Fletcher (Warrington), triple ovens, ventilated hot-air oven, invalids' oven, cooking and boiling burners, water heaters and injector, gas furnace; Mr. Felix Thomas (Weston-super-Mare), improved baths, the Stott self-acting gas-valve, and a large collection of gas fittings; Messrs. Carnarby and Co., gas apparatus, for the safe and economical use of gas; Messrs. Beverley and Wylde (Leeds), Leeds kitcheners and Sydney gas-cookers; Messrs. H. and C. Davis (London), stoves, &c.; Messrs. Arden, Hill, and Co. (Birmingham), cookers, ovens, and cone radiating stove; Messrs. Ewart and Son (London), improved gas bath; Messrs. Ritchie and Co. (London), Luxcalor heating apparatus; Messrs. W. and B. Cowan (London), meters and

governors; Messrs. A. Wright and Co. (London), pressure gauges; Mr. Andrew (Stockport), Bisschop gas engine; Messrs. J. Davis and Co. (London), apparatus used in gas manipulation; Weston-super-Mare Gas Company, Otto gas engine, photometer, &c.; Messrs. J. Hancock and Co. (Dudley), domestic appliances.

SILK CULTIVATION.

Among the wares which farmers in the South of Europe bring to market are bunches of mulberry-leaves. They are purchased by people who keep silkworms, and who have not the means on their own ground for feeding them. The leaves are sold by weight in the market; and to select what will nourish the worms best is a task of some difficulty. The farmer wants to sell the heaviest, but the purchaser knows that as the tree grows older the leaf gets smaller, and that it is the small leaf which contains most food. Those who do not buy in the markets hire mulberry trees in nurseries and plantations for the season, a good tree giving from thirty to sixty pounds of leaves. The price of a tree varies according to the local demand for it, but eight francs would not be considered too much for one yielding thirty pounds of leaves.

When the leaves are carried home from market the rearing of the silkworms commences. It is a work requiring the greatest care and delicacy, and there are various ways of setting about it. In spite of improved methods, many of the silk cultivators of the South still maintain the most primitive. They have the eggs of last year's grey moths preserved in vials hermetically sealed. These have been immured in earthern pots, kept at a low temperature, so as to avoid premature hatching. To hatch the eggs they are taken out, and one or two ounces of them being poured into a silk bag, it is worn on the chest for some days. At night it is put under a pillow or wrapped in fine linen; the eggs are placed on a bed kept at the average heat of the human body. After the worms are hatched they are lifted into flat baskets and covered with mulberry leaves, which they devour greedily. The feeding goes on for a week, or it may be a fortnight, the worms not seeking to escape from the baskets where they are supplied. At the end of that time they stop feeding, crawl uneasily among the chopped leaves, and the cultivator knows they are preparing to spin. At that stage small bushes are given to them—broom-bushes, heath, or clean bean-stalks. These are arranged in rows, with air and space between each, and look like so many miniature hedges. Inside and around them the cocoon is spun. By-and-by, with the worms inside, the cocoons are carried out to a cauldron in the cultivator's garden and thrown into hot water. The silk then loosens itself and may be wound off, and the dead bodies of the worms are given to the birds, who appreciate them as if they were seed. The silk thread may then go to the market, and from that to the factory.

The silkworm is not, however, a native of Southern Europe, though in Spain, France, Italy, Greece, and Turkey its cultivation is pursued with different degrees of success. China is the true home of the worm; and it was at Constantinople that two Persian monks, coming from the country of the Seres, first introduced it during the reign of Justinian. It is to this first progeny, carried from the East in a hollow cane, that all the later silkworms of Europe must be referred. It was soon discovered that, with the introduction of the mulberry, Europe could be made as productive as China. Becoming independent of Oriental supplies, silk was sent out from the Greek Empire, by way of Venice, for 600 years. The Chinese, however, still maintain their ancient cunning in the cultivation of the insect. They allow no stranger into the secret of their trade, and to England alone they send in a good year as much as four million pounds worth of silk. The hanks, or "books," as they are called, come into market covered with caps made of a single cocoon; and it is one of many processes in connection with the culture and exportation of silk by the Chinese which in Europe is neither practised nor understood.

The industry was carried in the eleventh century to Sicily by Roger I.; and, as he had seized some Athenian weavers, silk was not only grown but manufactured with all the art of the period. From Sicily the industry readily passed into Italy, France, and Spain, though the Venetians and the Genoese had already been importing worms and mulberries on their own account. A curious circumstance in connection with it was that the noblest Venetian families thought that they might engage in the trade without loss of dignity. Glass and drugs shared the distinction with silk. Louis XI. probably deserves the credit of introducing silk into France; Tours became a rising town under his patronage. Francis I. promoted the industry in the neighbourhood of Lyons and Avignon. Henri IV. personally interested himself in the subject and the naturalisation of the insect as far north as Orleans. He was anxious to have it introduced at Paris, and at Fontainebleau mulberry trees were planted in great numbers. At the same time he offered titles of nobility to such Parisians as had sufficient enterprise to establish silk factories. Later on Louis XIV. is found offering a reward of three livres to the cultivator of every mulberry tree which should be in a thriving condition three years after it had been planted. The consequence was that Provence, Languedoc, Dauphine, Lyonnoise, Gascony, and Saintonge became mulberry plantations.

A bold attempt was made by James I. to render silk-culture popular in England. It had long been known that silkworms fed in English houses had gone through the work of spinning and breeding as if they were in a southern climate. It seemed, therefore, to King James that nothing was required but mulberry-trees; so he sent out circular letters to the county authorities of England, inviting those who could to buy sprigs in London at three farthings a piece, and to plant them without delay. For a time there was much excitement at the prospect of silk being made indigenous. Not very long before a sumptuary law had been passed for the benefit of a too luxurious middle class, providing "that whosoever shall wear silk in or upon his or her hat, bonnet, or girdle, scabbard, hose, shoes, or spur-leather, shall be imprisoned during three months, and forfeit ten pounds," magistrates of corporations and all who ranked above them being excepted from the operation of the statute. But the failure of the first effort made the King turn his attention to Virginia as a more suitable field than England. In 1718, when every scheme on which joint-stock subscriptions could be raised was made the most of, one for the cultivation of silk was put forth. A company leased Chelsea Park for 122 years, and planted 2,000 mulberry-trees. Nothing came of it. Seven years later a scheme which promised to be more remunerative was set on foot for the cultivation of silk in the south of Ireland. The climate of County Cork, it was thought, would suit both the plant and the worm, and the cheapness of labour would put the cultivators on terms of equality with competitors in the south of France. The undertaking was supported by many who hoped to improve the condition of a peasantry even then understood to be very badly off. Eighty acres were selected near Mitchellstown, and 400,000 white mulberry-trees were planted. They grew admirably, and nothing at first seemed wanting to the success of the experiment. But it was soon found that if labour was cheap and the climate suitable, the incurable awkwardness of the Irish labourers unfitted them for the task of rearing the worms and reeling the silk. The company had to transfer its capital and appliances to Malta, where there was some hereditary taste for the work among the poorest classes.

If the silkworm cannot be cultivated in England, it has been proved that at least in some of the colonies the conditions are favourable to its growth. Colonial governments have not been blind to the fact. To encourage the industry the Government of New Zealand offered a percentage on all cocoons prepared for export, but as yet the offer has been attended by no results. Victoria, in its vine districts, have already begun to cultivate the silkworm, and its cocoons are favourably known. That there is room for competition may be judged from the value of the silk imports into England for any recent year. Taking 1877 as, on the whole, a fair average year, it appears that there were imports in "knubs" and waste to the amount of £327,256; of thrown silk, £108,508; of raw silk, £4,452,045; while silks in various stages of manufacture were valued at £12,631,822. In some seasons these imports are of higher value by several millions. In its raw state, the silk is divided at present among 706 factories, having 842,533 spindles, 12,546 power-looms, employing 40,985 workers.

THE AMERICAN AND EUROPEAN SEWING MACHINE TRADES.

A glance at the sewing machine trade in Europe and America, says the *Sewing Machine News*, affords as striking a contrast as has ever been witnessed in commercial history. In Europe, now, as for several years past, the trade appears to be at a very low ebb. Bankruptcy, both of manufacturers and dealers, has prevailed to a great extent, numerous and bad failures having taken place both in England and Germany. In France, to be sure, the trade is in a more healthy condition, although it shows but a languid vitality and sluggish enterprise. It is a matter of surprise to many who are admirers of these three great commercial nations, which have played so great a part in the industrial progress of the world, that they should have permitted one of the leading industries to drift into such a backward condition, especially when the opportunities for doing an active, pushing, and paying trade in sewing machines would seem to be unusually favourable. The facilities for manufacturing and selling ought to be, if anything, greater and better than they are in this country; labour both rough and skilled being much cheaper and more abundant than here: material, except the woodwork, perhaps, can be procured at much lower prices; the cost of factories, or rental of them, and the hire of stores, look merely nominal in comparison with what is paid for the same in the United States; interest is lower, although ready money, indeed, is not quite so easy; every description of expense the business entails rules much lower than here; the countries are thickly populated, and the trade of the furthermost spots can easily be reached in a day's ride, obviating the high rates of freightage which prevail in this land of magnificent distances; the upper and middle classes are rich, while a good average of the working classes have steady work at fair wages. Yet, in spite of all these highly favourable conditions, the sewing machine trade of these three chief nations of Europe, in the relative bulk of business done, and the proportionate amount of profits derived from it, falls immeasurably below that of the United States, where the advantages are not so great, and the business is necessarily run at a much higher pressure.

Of course, there must be a reason for this; and we think that the true one can easily be divined. The European manufacturers never took hold right, and have never gained the confidence of their people. Throughout, theirs has been a policy of imitation, servile imitation of American machines, and in pursuance of this mistaken course they have copied the good and the bad, in their lack of experience and knowledge being unable to tell the latter from the former; so that, as a consequence, we find to-day in vogue upon many European machines, devices which have been abandoned and become obsolete in the United States. Instead of aiming at all possible improvement and finish in the essential, work-performing parts and devices, the European manufacturers have exhausted their inventive faculties in devising new *shapes* and *patterns* in the castings and woodwork of machines, and have vied with each other in covering their products with gaudy ornamentation, wherewith to catch the eye of the uninitiated public. They appear to have been satisfied with a machine that would make a seam somehow or other, which would be all their customers would possibly require. But the unsophisticated public soon discovered, as it always does, sooner or later, what was best for its own interest. The plainer looking and less pretentious machines of American make were speedily discovered to be in point of accurate adjustment, finish of mechanism, smoothness of running, rapidity, perfection of stitch, and in every essential quality immeasurably superior to their showy European cousins. Upon the well-established principle of the survival of the fittest, the Americans soon became universal favourites, and the Europeans were relegated to a back seat, where they have remained ever since, and from all present indications, are likely to stay.

The sewing machine trade of Europe does not lack men of ability. The gentlemen who are at the head of the manufacturing firms, and many of the large dealers, are men of education, culture, and sound sense, and the reason why they do not succeed better is, in a word, simply because they do not understand the nature of the business they are engaged in. They are occupied in the manufacture and sale of an article which has been shown to be capable of a very high degree of mechanical excellence. This excellence they have never striven to attain. They have confined their energies to the commercial department, to the neglect of the mechanical, which with them has always been a matter of secondary importance. A very grave mistake. In the factories of this country all energies are bent primarily in the direction of mechanical superiority and improvement. The experts who build, devise, and invent are mechanics of high ability and special experience in this class of machinery; they are paid large salaries, and to their *fiat* the officers of the companies, from president down, bow in deference. In Europe men of inferior ability, without the necessary experience in most cases, are employed to build machines, producing, in the general run, what can at best be termed clumsy imitations. Imitation of a very high order of merit has met with no great success here in competition—how can poor imitations be expected to succeed elsewhere in competition?

Until the European manufacturer of sewing machines makes perfection of mechanism the point of his ambition, and leaving the rut of the copyist, aims at originality; until he learns to study closely the wants of the people, and strains every nerve to meet those wants, instead of trying to persuade the public to buy his wares merely on his own declarations of their merits; until he invents and improves so as to *command* patronage, just so long must he play second fiddle to the American, and be content to follow humbly in his wake.

THE UNION BAG MACHINE.

The Union Bag Company, manufacturers of the Union Bag Machine, 86 and 88, Market-street, Chicago, are having a demand for all the machines they can turn out, and are shipping them to all parts of the world. In their circular to the trade they state:—"The double chain stitch, which has long been conceded to be the only satisfactory stitch for bag work, has heretofore been made with a hook in other machines. A hook is a bungling, uncertain, and complicated device, which is always getting out of order. The one great nuisance in bag machines making the most desirable stitch has been the hook. This stitch is made in our machines by the use of a straight needle, which is simple, durable, and sure, and does away with much of the trouble in threading. The stitch regulator being upon the top of the bed, any length stitch can be obtained, while the machine is running. The thread for both upper and lower needles can be used direct from either spool or ball. The feed is positive and noiseless, and has great range and capacity, being adjustable to make stitches of one-sixteenth to one-half an inch in length. Its working parts are tempered steel or case-hardened iron, and so constructed that 'lost motion' in all the wearing parts, can be effectively taken up; every motion is positive, none produced by springs." Cook and McNally, 12, Fourth-avenue, Chicago, say they have been using the Union Bag Machines for the past seven months, with entire satisfaction, and without any expense for repairs, and they can easily make with them twice as many bags as they ever could with other machines. One of their operators regularly makes his 1,500 bags per day, running the machine by foot power only. Many such instances as the above could be cited from this and other cities where these machines have gone into use.

STARCH GLOSS.

The *Faerber Muster Zeitung* gives the following recipe for starch gloss, which it says will give satisfaction:—

Spermaceti	1 part.
Gum Senegal	½ ,,
Borax	1 ,,
Glycerine	2½ parts.
Water	24½ ,,

Two or three teaspoonfuls to be added to one-quarter pound of boiled starch.

The entire sales of the Howe Machine Co., in the United States and Canada, for the year 1880, footed up to the amount of 40,143 machines.

CHIMONNIER, INVENTOR OF THE SEWING MACHINE.

In the current number of *La Machine à Condre*, "A Veteran" writes from Paris:—"Some time ago you dedicated an article to the memory of Elias Howe. Will you now permit me to speak some words about our countryman Chimonnier? Elias Howe, you remembered, died at the pinnacle of glory. Chimonnier died in poverty, almost unknown. Thirty years of struggle, of labour, of misery, had exhausted him. He died miserably. And yet he is the man, and he alone, who can claim the honour of having constructed the first sewing machine, sewing in a practicable manner (Brevet of 17 April 1830) and instead of being, at his death-bed, in the possession of the cross of the 'Légion d'honneur,' that he had really deserved, he left this world as a martyr of his discovery, leaving his family in the utmost indigence.

Elias Howe was a mechanician. Chimonnier understood nothing of the first elements of mechanics; he spends four years in working very little in his workshop, that gives bread to his family, and very much in an isolated pavilion, without anyone knowing what he is about. He neglects his business, loses his credit, ruins himself, is even treated as a madman, but he never minded it; in 1829 he has at length embodied his idea, he has invented a new instrument, the sewing machine.

Chimonnier did not only suffer under the disdain his new invention met with, he saw not only his life menaced, escaping only by flight from the hands of the workmen of the house Germain, Petit et Co. (11 July 1831) but even the press declared itself against him. Your readers may follow here some passages from the *Journal de Villefranche*, No. 213 of the 14 September 1845. Letter of a subscriber.

"You publish, in the most flattering terms, the invention of a sewing machine, due to the sagacious meditations of Mr. Chimonnier, tailor at Amplepuis. You are quite right in saying that this machine is destined to produce a revolution in the sewing industry, and it is justly this revolution which I consider as the source of the most fatal consequences, etc...." follows a picture of the deplorable destiny of women, if the sewing machine were to become of general use, the writer of the letter concludes thus:—"In every respect, even in matters of progress, the good, when it is counterbalanced by a greater evil, must be shun as a public calamity. If, on one hand, the sewing machine is to introduce some ameliorations, it needs produce on the other fatal results. I therefore cannot agree with the praises, which you bestow on the inventor, still less am I inclined to wish for its propagation, unless the numerous and interested class of the seamstresses be gifted with another industry." The editor added a note to this letter, in which he excuses himself for having given to understand, that he considered the machine a benefit; he ends by saying, "In announcing the invention of the sewing machine, we could foresee that it would produce a revolution in this industry, but in evincing this supposition, we abstained from examining what would be the other consequences to result from this invention. We wished but to render homage to the merits of the inventor."

If Chimonnier, who was no mechanician, did nevertheless construct the first machine, he was no less eloquent in refuting the attacks of his opponents in a letter, in which he gives proofs of a very positive and logical spirit. I regret its being too long to be inserted here; I will nevertheless reproduce the conclusion, where he says, after having quoted the example of the weaver's loom and the spinner's wheel, the ground basis of the prosperity of the principal cities on the Rhone, "The workman who opposes himself against the machine is like a child that revolts against and illuses his nurse.

What is my sewing machine, compared to all those sublime inventions, that it should deserve such attacks? What is its destiny? I am unaware. But if it were permitted to me to expect from it for the confection of dress and linen-cloth of each person a yearly benefit of one franc, I would have saved my country a yearly labour of thirty-three million francs, which, added to the benefits of other industries, would considerably augment the national wealth without calculating the profits derived from the exportation. And every unfortunate individual would gain yearly the produce of one day's labour. Such a result, the most flattering reward which I can wish for, would amply console me for the attacks, respectable in their meaning but erroneous, directed against my invention."

I will conclude by refuting an error spread amongst the public, that the machine constructed by Chimonnier was of wood. I had the honour, some time ago, to pay a visit to Mr. E. Chimonnier, the son of the inventor, who, with great affability and perfect good grace, showed me one of the first essays of his father's invention. He made me observe that iron, steel and copper entered in its construction. He put into operation a machine sold by his father to a tailor in 1840, and re-bought by him in 1872. This machine, after thirty-two years of service, acted still very well. It makes a stitch at every turn of the pedal (about 200 a minute.) The needle is with crotchet point, the thread-bobin is underneath, an iron filament brings the thread against the crotchet, which in rising brings the thread in the stuff, where it forms a curl; the crotchet re-descending, traverses the curl, so that the chain is formed thereon. The enchaining is very regular and the length of the stitch is regulated by a screw."

NOVEL ADVERTISING.

A tradesman of Manchester, England—who deals in pretty nearly everything from the proverbial "needle to an anchor," not excepting dry goods, cigars and quack medicines—has hit on a novel and amusing method of securing the engrossed attention of the public and obtaining a vast deal of personal notoriety. He has standing in his capacious show window twelve boys—not dummies, but live lads—uniformed in smock frocks, some holding in their hands jewellery, some cigars, some umbrellas, some pointing to suits of clothes, and so forth. They go through considerable pantomimic action of a grotesque character, and are constantly gazed at by a crowd that almost block the sidewalk. The people who waste time in looking at the boys' antics say that they are as mirth-provoking as a theatrical farce. The lads enjoy the fun, are paid fair wages, and are pleased at the observation they attract and the decided sensation they create. Whether this *tableaux vivans* style of advertising "pays" the proprietor, report saith not; but we presume that it does or he would not continue it. The "show" as we may term it, causes some trouble to the police on account of the concourse it collects; but as the enterprising tradesman does not infract any law or ordinance by his juvenile army of exhibitors of his wares, there is no remedy.

SOAP.

Within the last few years the consumption in the manufacture of soap of foreign fats, for the most part the product of hot countries, has very greatly increased, palm oil and cocoanut oil being of first-class importance, while to a less extent mafurra tallow, cotton seed oil, peanut oil, and other such materials have been applied to this use. Large additional supplies of fat have come to be regularly obtained by extraction with carbon di-sulphide, and of late still better with light petroleum spirit, from the "marc" of olive pressing, from colza, cotton, and other seed cakes, from bones, slaughter-house refuse, cotton waste, &c., and these have in great measure fallen into the hands of the soap boiler. In some respects, however, the most valuable of modern additions to his resources has been the "red oil," or crude oleic acid, turned out in great quantity in pressing the solid fatty acids, palmitic and stearic, used in the manufacture of candles. The facility with which this free acid undergoes saponification, in comparison with the corresponding glyceride, is alone sufficient to distinguish it. The chief feature in the supply of alkali has been the very general introduction of ready-made caustic soda, as contrasted with the old practice of causticising the carbonate in the soap factory itself immediately before using it. The list of materials for adulterating soap is a long one, and, whatever may be their claims for improving the quality of that article, they are simply false. They add nothing to the value of soap, and are used simply as adulterants by which money is gained by means of false pretences. While there are honest manufacturers of soap, there are too many who put their swindling products upon the market, and are allowed to reap their ill-gotten gains.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.

NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
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THOMAS WARWICK,
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By Royal Letters Patent.
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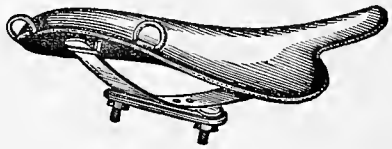
SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

Price List Free on application to the above,
ALMA STREET,
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W. HOSIER & CO.,
MANUFACTURERS OF
The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.
Also Perambulators with Bicycle Wheels.
Largest Dealers in the World in New and Second-hand Machines.
MIDLAND BICYCLE DEPOT.
SMITHFORD STREET, COVENTRY.

The Sewing Machine Gazette
AND
JOURNAL OF DOMESTIC APPLIANCES.

THERE has been little in the past month to disturb the tranquillity of the Sewing Machine and Domestic Labour-Saving Machinery Trades. When using the word "tranquillity" we do not mean to imply that these trades are in a quiet, dull condition—for at the present time they are more active than they have been for many years—but rather that they are free at the present time from the disturbing influences of large failures, law suits, and such occurences that have been only too unwelcome visitors of late years. Those firms in the sewing machine trade who make it their business to manufacture machines especially suited to the boot manufacturer, exhibited at the Leather Tradee' Exhibition, lately held at the Agricultural Hall, where, we hear, many secured good orders. The Howe Sewing Machine Company, the Wheeler

and Wilson Company, Messrs. O. Robinson and Co., and Messrs. Pearson and Co., have exhibited their manufactures, which have been well patronised by the shoe trade. In bicycles we are pleased to note that the trade still continues good, many large export orders having come to hand. Domestic labour-saving machinery of all kinds is experiencing a steady demand, and shows every sign of becoming an increasingly profitable trade.

Messrs. Davis and Co., sewing machine manufacturers, were entertained at dinner by their employés at the Manchester Hotel, Aldersgate-street, a few days ago. Mr. S. Davis occupied the chair, and Mr. Riper, one of the managers of the firm, was vice-chairman. After the usual loyal toasts, the vice-chairman proposed the toast of the evening, viz., "The Health of the Firm." Mr. S. Davis, in responding, pointed out the extraordinary increase and extension in their business since they commenced twenty years ago. Then they thought it a large order to purchase a few tons of iron and a few logs of wood; but now they thought very little of purchasing a thousand tons of iron, and only the day before had brought up two ship's cargoes of wood, and they now employed 200 workmen. Mr. Davis also pointed out the rapid increase of the perambulator business in the short space of two years, and highly complimented the manager of that department on his skill and energy. A very enjoyable evening was spent, and it must be a matter of congratulation to Messrs. Davis to feel that they are on such good terms with their workmen.

The American companies signified, on the 26th ult., their regard and respect to the memory of the late President by appropriately draping their show rooms with black, putting crape on flags, and other mourning signs. The premises of the Singer Company, and of Messrs. Willcox and Gibbs, in Cheapside, were shrouded with an "inky cloak."

THE BRADBURY SEWING MACHINES AT THE ADELAIDE EXHIBITION.

Messrs. Bradbury and Co. (Limited) have received a special award at the Adelaide Exhibition for the best general collection of sewing machines, and also a special award for high speed manufacturing machine for light work. The following is the jurors report *in extenso*:—

The jurors having met at the exhibition building on Tuesday, the 16th Aug., commenced proceedings by discussing the basis upon which all machines were to be judged, which was as follows:—Each machine was to be taken to pieces by the operator, and the working parts cleaned free from all oil, and afterwards examined by the judges separately as to the quality of the material used in its construction, the total number of working parts, how many parts were hardened to resist wear, and the defective points, if any, in the metal used in construction. Unfortunately for the Bradbury Company, their operator selected a semi-manufacturing machine, instead of a family one, for the test, although we are unanimously agreed that they had much better machines on exhibit, and we are also agreed that the "Domestic" is a useful machine, but has too many soft parts in its construction. After this constructive examination was over the machine was again put together, and tested for light and heavy running, with and without oil in its working parts, and afterwards the various tests went to show the general capability of the machine for domestic use by stitching from one to sixteen plies of calico with different numbers of thread at quick and slow running; by sewing black cloth, one, two, four, and eight ply under the same conditions; and by sewing a piece of leather about 3-16th inch thick, with fine, medium, and long stitches, the machine running with quick and slow motion. All the needles used were accurately gauged, and every operator treated exactly alike in their tests, after which Mr. Lockhart (who has only lately arrived in the colony from the Howe Company, Glasgow, where he had many years' practical experience in testing machines before being sent out of the factory) took them in hand, and tested all the machines under similar conditions of running. Without entering into all the details of the tests, which can only interest practical persons, we are agreed as follows:—"Sewing machines for all kinds of domestic use, the Davis 1st, the Standard 2nd. High speed manufacturing machine for light work, special award to Bradbury and Co. Elastic and repairing machine, special award to Bradbury and Co. Wellington kilting machine, special award to Bradbury and Co. The jurors think that Bradbury and Co. deserve a special award for the best general collection of sewing machines.—Signed H. J. Scott, Robert K. Threlfall, R. Lockhart, Thomas Francis."

THE LIGHT RUNNING STANDARD.

We have received from Messrs. Rennick, Kemsley, and Co., of 4, Finsbury-circus, their circular to the trade for the coming season, drawing special attention to their Light Running Standard Machine. We have described the machine in a former number, and our judgment as to the large weekly sales of the machine has been verified, for we learn that the demand for them has more than equalled the supply, and as a general favourite, giving little trouble to the agents, it is growing in favour everywhere. The Light Running Standard Treadle Machines are now being turned out of the factory at the rate of 300 per day, which just about keeps pace with the orders; it is intended, however, to increase the output. A thoroughly good independent machine which has sufficient merit in itself to command attention. In order to show that they have such an article in the Light Running Standard, Messrs. Rennick, Kemsley, and Co. have asked a few of their agents, who are well known to have a good judgment in these matters, to give their opinion upon it, and then append their replies to the circular above mentioned. These flattering testimonials are not given by retail buyers who have never seen more than one machine, but by men who have been for many years in the trade, and who have either sold or repaired every kind of machine that has been put upon the market, and from some of the best and well known men in the sewing machine trade, from all parts of England, Wales, and Scotland. Messrs. Rennick, Kemsley, and Co. have our congratulations and best wishes for the large trade they do, and will do, in the Light Running Standard.

NEW ZEALAND NEWS.

A correspondent of the *Sewing Machine Journal*, dating Auckland, N. Z., July 18, 1881, says:—Since last writing you, business has been very dull, with but limited sales except on the deferred payment system, which, by the bye, is not at all adapted for these colonies, from the population being so unstable. As a rule people out here remove from house to house, town to town, or from one colony to another, on work becoming slack or wages higher elsewhere.

I understand Singer's people are landing about 1,000 machines per month for all New Zealand. They may get rid of them, but I expect they will accumulate; for the entire population by the last census is only 489,702, of which males 269,452, females 220,250.

The Davis is settling down after the excitement, but whether it will command a permanent footing remains to be seen. They seem to have crowded as much work as possible into the face plate, where space is limited, and left the underside of the machine almost bare, the motive for which is difficult to see. One cannot but admire the way they put it into the market, but, as a practical man, I see few good points to warrant the noise they make over it. As I hinted in my last, I believe the really good accessories have much to do with it.

The demand for manufacturing machines is very limited. We have two Blake sole-sewing machines; one large Thomas for trace sewing; a factory with power and Singer machines on shirt making, running 1,600 stitches per minute; a Singer straight sack machine on tarpaulins, with power, at the Government works; two shirt factories using Singer's and W. and Wilson's foot machines, and numerous boot factories using

Howe's and Jones', the latter of which seems to be preferred, as better finished. All these machines are run, as a rule, until they will run no longer; and consequently several repairing shops are kept in constant work. This I hold to be false economy, as repairs come very heavy; and in some cases as much is spent in a year in this way as would buy another machine.

A GERMAN SEWING MACHINE MANUFACTORY.

One of the large establishments for the manufacture of sewing machines in Europe is that of Messrs. Carl Schmidt and Hengstenberg, of Bielefeld, and for whom Mr. W. Benscher, of 44, Fore-street, London, is the agent for England. They were established in 1868, and the average output of the concern is some 5,000 machines annually.

The most important machine made by this firm is a Circular Elastic Machine for shoemakers, which has received first prizes at exhibitions in London, Paris, Vienna, and Prague.

The Circular Elastic Machine is beautifully made and finished; the shuttle is constructed on the self-acting principle, the tension being regulated by means of a small screw. The machine has an arm 38 centimetres in length. The machine is made in two sizes, one for ladies' and children's work and the other for men's, the arm of the first named being much smaller round. It is very simple in its construction, has evenly balanced working parts, and combines elegance with strength.

The Column Machine is admirably adapted for leather work, especially for harness making and all saddlery purposes, and no better machine could be selected by the portmanteau and leather bag manufacturers, being very powerful, light running, and specially constructed for the purpose.

Messrs. Schmidt and Hengstenberg are also manufacturers of the Saxonia, a well-known and favourite hand lockstitch machine, and also of other imitations of the Singer Machine, both hand and treadle, in "family" and "medium" sizes."

The sample machines we have seen, shown to us by Mr. Benscher, are all beautifully finished and work with ease and speed.

TO MAKE HARD WATER SOFT.

Soap contains fatty acids, which form insoluble compounds with the lime and magnesia in hard waters, and no lather will be produced till all the lime and magnesia dissolved in the water have been precipitated in this way. And this occasions a waste of soap. Now, what is called the temporary hardness in water may be removed by boiling it. The expulsion of dissolved carbonic acid gas by that means leads to the removal of the calcic carbonate from solution in the water, and the hardness due to that cause is then removed. But the water may contain sulphate of lime in solution, which will not be removed by boiling the water. On the contrary, unless the water had been previously saturated with the salt, the evolution of steam in boiling would rather tend to concentrate its solution, and thus the permanent hardness due to this cause would remain.

The problem is essentially this: How may dissolved calcic (and magnesic) carbonate be best removed from solution in water?—*i.e.*, how may these salts be converted into suspended and insoluble matter with the smallest possible expenditure of time and money? We have seen that the method of boiling the water, though effectual, is objectionable on the score of expense, liability to accidents, &c. Now, in Clark's process, which is preferably, the suspended insoluble calcic carbonate produced has to be removed by subsidence. There are two methods by which suspended matter is removed from water in nature, subsidence and filtration, and these processes are also adopted by man for the same purpose. Now, it is claimed for the method of purification by filtration that organic matters are oxydised by the substances employed, *e.g.*, charcoal, which has the property of retaining oxygen gas in its pores. But the process of Clark also undoubtedly removes dissolved organic matters from waters, the lime which is added acting as a mordant, and producing their precipitation. Clark's process is as follows: By adding quicklime or slaked lime to a carbonated calcareous water, the carbonic acid gas, which is holding the carbonate of lime in solution, is first removed by combination with the added lime, and the carbonate of lime thus produced falls, together with that previously in solution, as a solid insoluble precipitate. The turbid water is left to clear by subsidence, and is afterwards drawn off freed from temporary hardness.

METHODS FOR WATERPROOFING CLOTHS.

Without considering the processes by which cloth is waterproofed with such substances as indiarubber, oils, wax and varnishes, there are several processes in practical use by which cloth is rendered non-absorbent of water—and for all practical purposes waterproof—without materially affecting its colour or appearance, greatly increasing its weight, or rendering it entirely airproof. These processes depend mainly upon the reaction between two or more substances, in consequence of which a substance insoluble in water is deposited in the fibres of the cloth. The following are several of these processes:—Lowry's process: soap, 2 ounces; glue, 4 ounces; water 1 gallon. Soften the glue in cold water and dissolve it, together with the soap, in the water by aid of heat and agitation. The cloth is filled with this solution by boiling it in the liquid for several hours, the time required depending upon the kind of fibre and thickness of the cloth. When properly saturated the excess of liquid is wrung out and the cloth exposed to the air until nearly dry; then digested for from five to twelve hours in the following solution: Alum 12 ounces; salt, 15 ounces; water, 1 gallon. It is finally wrung out, rinsed in clean water, and dried at a temperature of about 80 degrees Fahr. Paut's process requires a small quantity of oil, but in other respects resembles the last. It is given as follows: Sodium carbonate (commercial), 1 pound; caustic lime, ½ pound; water, 2½ pints. Boil together, let it stand to settle, then draw off the clear lye, and add to it—Tallow, 1 pound; resin, ½ pound; previously melted together. Boil and stir occasionally for half an hour, then introduce—Glue (previously softened), 3 ounces; linseed oil, 3 ounces; and continue the boiling and stirring for another half hour. In waterproofing one-half ounce of this soap is mixed with a gallon of hot water, and in this the goods are soaked for about twenty-four hours, according to thickness and character. The pieces are then allowed to drain until partly dried, then soaked for six ounces or more in a solution prepared as follows: Aluminum sulphate, 1 pound; lead acetate, ½ pound; water, 8 gallons. Shake together, allow to settle, and draw off the clear liquid—wring out after rinsing, and dry at a temperature of 80 degrees Fahr. Bienvaux uses, instead of glue and oil as above, the gelatinous portion of sea-wrack grass with a small quantity of a drying oil and common resin-soda soap. In Reimann's process the cloth is passed slowly by machinery through a tank divided into three compartments, the first containing a warm solution of alum, the second a wasm solution of lead acetate, and the third pure water, which is constantly renewed. The cloth on passing from the latter is brushed and beaten to remove the salt adhering to the surface, and finally hot-pressed and brushed. In this case lead sulphate is deposited in the fibres. In Townsend's process two solutions are used as follows: British gum, 20 pounds; soap, white, 10 pounds; water, 16 gallons. The solution is boiled for some minutes, and if colour is required one pint of logwood liquor is added. The second solution consists of a saturated solution of alum in water, or—Zinc sulphate, 6 pounds; water, 9 gallons. Bullard's process is somewhat similar to Riemann's. In this strong aqueous solutions of sulphate of aluminum and lead acetate are used alternately.

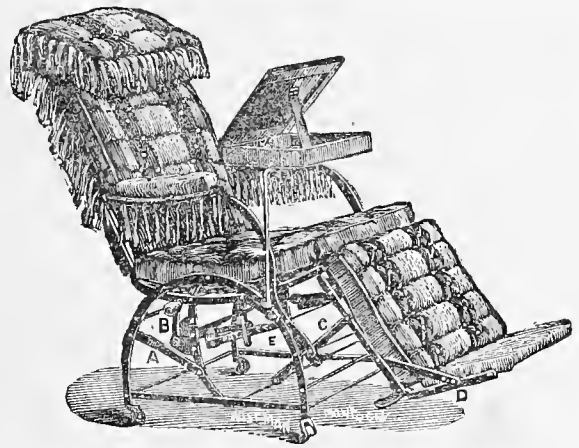
ACCESSORIES IN LAUNDRYING.

For softening water to be used in washing, it has been shown by experiments made upon the large scale that magnesia hard water, containing magnesium carbonate dissolved by excess of carbonic acid, may be purified by means of calcium hydrate as completely and easily as water which owes its hardness to calcium carbonate. Clear lime-water proves much more satisfactory in producing precipitation than milk of lime, and from three to five hours suffices for the settling of the precipitate, leaving the water clear. Among alkaline materials adapted to increase the cleansing power of

water, either with or without soap, the most useful which have been brought forward are borax and sodium silicate (soluble glass). Borax soap is manufactured with which the salt is already incorporated. Soluble glass has been employed to some extent in the industrial preparation of new textile fabrics. The addition of gum to the starch jelly used in giving stiffness to washed clothing has long been practised with a view to improving the gloss of the surface, especially in order to render the appearance of new clothing attractive. There is some reason to believe that dextrine is substituted for natural gum, although such substitution does not seem to have been publicly noticed. If this be not practised, it would be well that the efficacy of dextrine for this purpose should be tried.

THE WILSON ADJUSTABLE CHAIR.

This exceedingly useful article of domestic comfort, of American introduction, has been awarded many prizes and medals at recent exhibitions, and only wants being better known to sell in large numbers. It is now manufactured under licence from the American patentee by Mr. Hollings, of Kirby-street, Hatton-garden, E.C. The illustration represents it as a library chair, and combining, as it does, elegance and lightness, with strength, simplicity, and comfort. It is made of wrought iron and hoop iron, with strong rivets and large castors; of course it may be upholstered in any style to suit the purchaser. It may be readily adjusted to some fifty changes of position, the directions here given will give an idea of some of the more useful. Drawing-room Chair.—The back can be reclined to any angle; shift the brace at A and the front will be raised. Easy Chair.—In lifting the front part out of the seat put ratchet on the rod connecting the arms, by doing this the back and front will move together, which is one of the main features of the chair. Library Chair.—Bring the pillow to the front, lock the chair on the 2nd notch on braces A and D, and turn the handle until the proper position is



attained. This is a comfortable position. Invalid's Chair.—Recline the chair a little more at handle, with the pillow thrown over the back. Easy Reading Chair.—Raise the ratchet at C, and unlock the foot-board from brace at D. American Favourite.—"Heels higher than head;" unlock the chair from the brace at A, and it will swing or rest on the rod at the back, and cannot tip over. This position shows the principle of the chair. Couch.—First recline the back, then lower the ratchet at C to the required position. Lounge.—Lower the ratchet to second or third notch, and recline the back to the desired position. Bed.—Six feet long, two feet wide. Drop the standards at the back to form a support, and recline the back to the level. Child's Swing Cot.—Lock the foot-board on brace D, raise the back to position 2, raise the ratchet to make the front level, unlock the brace at A, and it will swing. Invalid's Hand Propelling Chair.—For out or indoors, has all the positions of the Adjustable Chair, while the invalid can propel himself. Folded for Shipment.—Weight of iron, about sixty pounds; with upholstery, about eighty-five pounds. Packed in case about two feet square.

PRIZE AWARDS AT THE SANITARY EXHIBITION.

Among the firms to whom prizes have been awarded at the Sanitary Exhibition are the following:—

Domestic and Hospital Architecture.

planning, construction, decorative materials.

Judges.—Sir Joseph Fayrer, K.C.S.I., M.D., F.R.S.; George Aitchison, A.R.A.; Fred J. Mouat, M.D., F.R.C.S.; Edward C. Robins, F.S.A., F.R.I.B.A.; P. Gordon Smith, F.R.I.B.A.; Professor Thomas Roger Smith, F.R.I.B.A.; Henry Saxon Snell, F.R.I.B.A.; Alfred Waterhouse, A.R.A.

First Class.—Robert Adams, reversible windows and adjustable door springs; Henry Doulton and Co., art stoneware; Charles Drake and Co., marble concrete; Howard and Sons, parquet flooring; Ihlee and Horn, Balmain's luminous paint; Russell and Erwin Manufacturing Company, locks and lock furniture; Wilcock and Co., architectural glazed ware.

Award of Merit.—Albissima Paint Company, white paint; Bryden and Sons, bell-hanging apparatus; Hobbs, Hart, and Co., locks and safes; Silicate Paint Company, washable distemper; Smith and Turner, door springs, &c.; A. Smith and Stevens, casement bolts, spring hinges, door knobs, and locks; James Stiff and Sons, art stoneware vases, &c.; W. Tonks and Sons, sash and fan-light fasteners and openers, and other door furniture; Fredk. Walton and Co., wall decorations (Linerusta-Walton); W. Woollams and Co., non-arsenical wall and ceiling papers.

Ventilating, Lighting, and Warming.

Judges.—H. H. Collins, F.R.I.B.A.; Capt. Douglas Galton, C.B., F.R.S.; George Godwin, F.R.S., F.S.A.; Ernest Hart, M.R.C.S.; Professor Kerr, F.R.I.B.A.; J. P. Seddon, F.R.I.B.A.

First Class.—Benham and Sons, general excellence; Robert Boyle and Son, general excellence; Chorlton and Dugdale, "The Sunlight" stove; T. J. Constantine, cooking range; Crossley Bros., "The Otto Silent Gas Engine;" Frederick Dyer, hot water apparatus; R. Renton Gibbs, general excellence; Robert H. Griffin, improved register stove; W. W. Hopkinson, "Libra lamp and valve;" S. Leoni and Co., general excellence; Longden and Co., "The Leeds stove;" Musgrave and Co., general excellence; T. Potter and Sons, "The Thermhydric" grate; G. E. Pritchett, F.S.A., architect, heating and ventilating apparatus: Radiator Range Co., "Radiator cooking range;" Rosser and Russell, general excellence; C. R. Stevens, hot water apparatus; Strode and Co., general excellence; Verity Bros., "Air Propellor," and for general excellence; T. Waller and Co., general excellence; J. Weeks and Co., general excellence; Wilson Engineering Co., cooking ranges.

Award of Merit.—Robert Adams, ventilating window apparatus; J. L. Bacon and Co., general excellence; P. Hinckes Bird, F.R.C.S., ventilators; Frank W. Clark, gas machine; Comyn, Ching and Co., general excellence; Joseph Constantine, warming apparatus; John Drysdale, M.D., and J. W. Hayward, system of ventilation; Fredk. Edwards and Son, general excellence; J. E. Ellison, conical ventilators; Faraday and Son, gas appliances; J. F. Farwig, calorigen; Gilmore and Clarke, ventilators; Wm. Hellier, water-heaters; Harry. Hunt, "crown jewel" stove; C. Kite and Co., chimney top; Charles Portway and Son, "tortoise" stove; Mrs. Priestley, window ventilator; Ritchie and Co., "lux calor" apparatus; Sanitary Engineering and Ventilating Co., general excellence; Steel and Garland, general excellence; Steven Bros. and Co., general excellence; Thames Bank Iron Co., general excellence; Wm. Tonks and Son, Curral's ventilators. The architrave ventilator.

School Furniture, Window Blinds, &c.

Judges.—Mrs. Garrett Anderson, M.D., J. C. Buckmaster, E. North Buxton (Chairman of the School Board for London), Alfred Carpenter, M.D., Dr. J. H. Gladstone, F.R.S., W. A. Meredith, M.D.

First Class.—Thomas Bradford, washing-machines; Colman and Glendenning, school furniture and appliances.

Award of Merit.—Robert Adams, universal Venetian blinds; Brydon and Sons, window-blinds and roller actions for sun-blinds; Larmuth and Sidebotham, school furniture and

appliances; William Tonks and Son, patent bookcase fittings, Hookham's patent picture line and adjusting fasteners, Allen's registered hat-holder; Henry Tylor and Sons, appliances connected with window-blinds.

THE LINEN THREAD INDUSTRY.

EXHIBIT AT THE INSTITUTE FAIR—J. R. LEESON & CO., SHOWING THE PRODUCT OF THE GRAFTON THREAD MILLS.

One of the most notable displays in the Institute fair is that of the Grafton thread mills. Its prominence is gained by the unique methods in which it fascinates the eye, by the variety and quality of the product and in the patriotic emofions kindled by being assured of the success of American flax-spinning.

The exhibit first attracts attention by the immense sign extending across the aisle which leads down the front of the boot and shoe exhibit of Houghton, Coolidge & Co., under the efficient direction of Mr. Charles H. Tilton. This holds up three representative balls of shoe and machine thread, and calls attention to the fact that this is the brand of thread exclusively used in the model boot factory below, as also in the parent shop at Ashland, which is possibly the second largest shoe factory in the country. The use of the Grafton thread in this public factory, and the absolute freedom that here exists for a critical examination of boot and shoe making in all its details, gives this thread a prominence for superiority that is not to be questioned. Below the sign in section D, 8, close to the exhibit of the celebrated American silks, is a large ebony case filled with samples from the Grafton thread mills, and also specimens of the great variety made at the home factory at Johnstone, Scotland. Briefly the history of this enterprise begins with the earliest efforts in the spinning of flax, and has gradually developed into a national industry for Great Britain, employing nearly 3000 operatives. The principals, Messrs. Finlayson, Bousfield & Co., entered their products in the first great international exhibition at London in 1851, and secured *the only medal given for excellence of thread.* Messrs. J. R. Leeson & Co., entered this product in the Cincinnati exposition of 1879-80, and on both clothing and shoe threads secured the only medal awarded for superiority of such products. Within a year and under the agency and advice of their American representatives, J. R. Leeson & Co., of Boston, Messrs. Finlayson, Bousfield & Co. have bought, improved and utilized the water and power flowing out of Lake Quinsigamond through New England Village, near the Grafton station of the Boston and Albany railway. From the experience in Fall River, where about one million dollars had been sunk in the effort to work flax into a linen product, from the failure in earlier days here, at Grafton, as well as elsewhere in the country, to manufacture linen thread, it had been supposed that there was something in the American climate hindering the transfer of flax into yarns. It now transpires that it was merely the want of experience and skill in manipulation, and in securing this for Massachusetts, Messrs. J. R. Leeson & Co. have added an important branch to the industries of America. For several months past Mr. Archibald W. Finlayson and Mr. James Finlayson, jun., have been at Grafton giving close personal attention to every detail in the process of making thread, and the result is that to-day this mill is producing a quality that of its class is the very best ever shown in this market. There is a great advantage in the treatment of the flax here in the abundance and purity of the water, which Mr. Finlayson, senior, states has no equal in any part of Great Britain for its efficacious effect upon the flax fibre.

In this Institute fair case is to be seen a ball of No. 60 thread that is twenty miles long, one continuous length, without knot or break, and that can be run through the eye of a needle from end to end without stop, thus demonstrating not only the quality of the flax, but the high skill employed in its manipulation. Here are gilling twines, sewing and shoe threads, and in fact every variety of linen thread, and in every characteristic the best ever exhibited. In addition to making a handsome show on their own behalf, Messrs. J. R. Leeson & Co. have certainly done their full share towards rendering the Institute fair a complete success.

THE BOSWORTH WAX-THREAD SEWING MACHINE.

In the little glass side shop, near this thread exhibit, section 9, C, is one of the novel Bosworth wax-thread sewing machines. One of such as have been in successful use for five months past at the Bay State shoe factory, Sing Sing, and at Peters, Cahoon's & Company immense harness factory, Newark. The machine runs on boot work 300 stitches a minute, while on trace and straight harness work it speeds to 400 stitches a minute. The whole mechanism is on the exact principle of hand work. The awl makes the holes. The thread is waxed and passed in one motion, making a perfect lock stitch, which is a very durable and very even finish. Amongst some of the advantages of this machine are the following:—

It uses an eye-pointed needle and makes a lock stitch. It uses a hard wax thread and the thread entirely fills the hole. The stitch is exactly the same on both sides. The tensions both on the upper and lower threads are as completely under control as in the "Singer" or "Howe" machines. The thread is not frayed in the least in sewing so that the full strength is obtained. The motions are so perfect and easy that the most delicate stock can be sewed without the least injury. It is equally adapted to sewing the "side-seams" and "counters" of boots and shoes, harness and belting. It saves 25 per cent in thread over the single thread machines. It makes a stronger stitch than the single thread machines, while the stitch is an exact resemblance to handwork and can be used in place of it. It sews stock from $\frac{1}{8}$ inch to $\frac{3}{4}$ inches thick equally well.

The threads manufactured by Finlayson, Bousfield & Co., and shown and supplied by J. R. Leeson & Co., are in practical and in exclusive use during the fair in Mr. Tilton's boot factory, and by the Goodyear, the McKay, the Keats, the Bosworth, the national wax thread machines, and by the new international dry thread machine. This, as a practical indorsement of this thread, is certainly very suggestive, and it is doubtful whether stronger testimony from those best qualified to judge could possibly be given "as to the quality of the article under notice."—*American Paper.*

MANUFACTURED FURS.

The leading feature in furs this season, as a matter of course, is sealskin, which has not only been growing in popularity on this side of the water, but the continent of Europe as well. France, Germany, and Russia have become within the last year or two quite large consumers of this particular class of furs. It is not long since that many in the trade were of the opinion that the day for sealskins was passing by, but instead of that the sales have been gradually increasing and prices as steadily advancing. The main source of supply of these skins or furs is now Alaska, which furnishes annually about 100,000 skins. To this may be added the product of the Shetland Isles, Cape Horn, and some other points, making probably about 150,000 pelts in all. When we consider that this quantity has to be subdivided among the nations of Europe and America, and that it takes from three to five dressed sealskins to make a garment, one can form some appreciable idea of the stock to go around. In this country and France particularly the demand for sealskins seems to be steadily increasing. The very character of our climate makes this the fur par excellence for ladies' winter wraps. In fact, it is the only fur now used for garments, such as sacques, dolmans and ulsters, other furs taking a secondary position for trimming and lining purposes. As nearly all kinds of ladies' costumes will be more profusely trimmed with furs this season than formerly, the demand for the same, it is thought will be very large, especially for black cony and Russian hare, which are the leading articles. The most fashionable hues of the latter are very dark. Light shades of furs are not so much in demand except in the finer qualities, such as beaver in the natural and dyed colours. Chinchilla and Siberian squirrel will also be largely used as heretofore, for lining silk and satin garments. For fox furs there seems to be but a limited inquiry. A few given pelts or furs being dyed in so many different hues or shades, and each

shade having a special or particular name of its own, that to particularize the same would require more space than the present article will admit of. For muffs and collars seal and otter seem to be the leading articles, and are made to match each other. Boas appear to be less fashionable than formerly, and, therefore, are offered in less variety and quantity. Collars and pelerines made of seal, otter, beaver, black fox, lynx, and Russian hare will be largely worn this winter.

EASTBOURNE SANITARY EXHIBITION.

The following awards have been made by the judges at the Eastbourne Sanitary Exhibition :—

Certificates of Merit.—Doulton and Co., Lambeth, waste preventers, baths and bath apparatus, sanitary appliances, fine-art pottery, &c.; D. T. Bostel, Brighton, Bostel's patent tip-up lavatory basins, Hall's patented ventilator, and other sanitary appliances; J. A. Skinner, Eastbourne, valve-closets, &c.; F. G. Underhay, London, closets, pumps, well-frames, ball valves, lavatories; W. H. Lascelles, London, red concrete window, paving and moulding slabs, and chimney-pieces; The Silicate Paint Company, London, paints, enamels, &c.; Wilcock and Co., Leeds, glazed bricks, pottery, and sanitary apparatus; Doulton and Co., Lambeth, terra-cotta mantelpieces, with patent fire apparatus; J. E. Ellison, Leeds, conical perforated ventilating bricks and air-grates, valves, &c.; Papyrotile Company, London, the papyrotile decoration; James Stiff and Sons, Lambeth, art stoneware, sewer air-traps, and terra-cotta, &c.; R. Boyle and Son, London and Glasgow, self-acting air-pump ventilators; Steven Bros. and Co, London, kitchen-ranges and cooking apparatus; F. Fisher, Tunbridge Wells, electric bells, &c.; Chorlton and Dugdale, Manchester, mattresses and beds; George Jennings, Stangate, London, valve-closets and urinals; Charles Drake and Co. (Limited), Battersea, concrete baths, floors, &c.; Spence's Metal Manufacturing Company, London, Spence's metal for jointing pipes, &c.; The Wilson Engineering Company, London, smoke-consuming stoves and ranges; Uriah Clark, Hellingley, Sussex, fancy and useful terra-cotta work, &c.; Edwards and Son, London, patent smoke-consuming slow-combustion grate; T. Constantine, London, smoke-consuming cooking-range, and Dick's patent fire-extinguishers; John Wright and Co., Birmingham and London, reflecting gas-cookers; Ritchie and Co., London, lighting and heating stoves; "Sunlight" Stove Company, Manchester, cooking-stoves, baking and roasting apparatus; C. R. Stevens, Lewisham, patent steam and hot-air heaters; Sanitary Engineering and Ventilation Company, Westminster, scientific, sanitary, and domestic cisterns, &c.; Bradford and Sons, Eastbourne, patent stoves and grates; William Sugg and Co., Westminster, lamps, burners, and ornamental globes, &c.; F. W. Reynolds, Blackfriars, portable steam-engines and mechanical tools; R. Adams, London, window-fasteners, sashes, &c.

Honourable Mention.—Thomas Bradford and Co., London, washing machines; Robert R. Gibbs, Liverpool, boilers and furnaces; Gilmore and Clark, London, fire-alarms and ventilators, &c.; J. Jones and Sons, Bankside, London, boiler and coil cases; Manchester Water-meter Company, Ardwick, water-meters, &c.; E. Miray, London, sanitary appliances; S. Owen, London, baths and fittings; J. A. Skinner, Eastbourne, stoves, &c. Webb's Worcester Tileries Company, Rainhow Hill, Worcester wood-floor blocks.

The preparation of the design for the diploma to be awarded by the Parkes Museum in connection with the Hygienic Exhibition recently held at South Kensington, was entrusted to Mr. W. Cave Thomas. The design includes a female figure, representing Sanitary Science, standing at the prow of a boat in the act of casting her "life buoy" (hygiene) into the seething ocean of human ills.

Reopening of the British Museum.—In accordance with the new rules, the British Museum was opened to the public on Thursday morning, after closing for the first four week days in October. During the month the galleries will be opened at ten a.m., and close at four p.m. daily; and the reading room will be opened at nine a.m., and by the aid of the electric light, which is now arranged in an improved form (Siemens' system), under the superintendence of Mr. Barrett, will remain open every evening during this month and succeeding winter months till seven p.m.

Liquidations by Arrangement.

Dunham, Henry Symes, East-street, Bridport, ironmonger, August 27.

Ketley, Jonathan, Pershore-road, Birmingham, machine dealer. August 24.

Lane, Thomas, trading as Thomas Lane and Sons, Brunswick-street, Wolverhampton, bicycle manufacturer. August 26.

Stephenson, Robert, Wellington-street, Gateshead, ironmonger. August 25.

Tranter, Edwin Allen, Trowbridge, Wilts, bicycle manufacturer. August 25.

Waterhouse, Samuel, Moor-row, Egremont, Cumberland, ironmonger. August 24.

Brooke, James, New-street and Leeds-road, Huddersfield, ironmonger. September 17.

Jones, William Robert, Llangefin, ironmonger, &c. August 30.

Smith, Alexander Harris, Scotland-road, Liverpool, ironmonger, &c. August 29.

Taylor, Joshua, King-street, Dukenfield and Hooley-hill, machinist and ironmonger. September 7,

Bills of Sale.

Hanson, Anu, Regent-street, Bingley, Yorks, ironmonger, and Hanson James, 111, Main-street, Bingley, Yorks, ironmonger; £200. In favour of Edward Clifton. Filed August 25.

Helliwell, Wm., Skelmanthorpe, near Huddersfield, tinner and ironmonger; £52 10s., &c. In favour of Arthur H. Billington. Filed August 24.

Raynbird, George, Arden-street, Earlsden, near Coventry, and trading as Kelsey and Co., at 4, Wells-street, Coventry, sewing machine manufacturer; £65. In favour of District Advance Co. Filed August 25.

Abrahams, William Benjamin, trading as William Abrahams, 65, Burdett-road, Bow, ironmonger; £583 5s. 10d. In favour of Isaac Cowan. Filed Sept. 15.

Davies, William, Glan Dulyn, Rhiwbryfdir, Festinwg, Merionethshire, ironmonger; £27 10s. 5d. In favour of John Minshall and another. Filed September 13.

Firth, James, Central-buildings, Sowerby Bridge, Halifax, ironmonger; indemnity, &c. In favour of Sally Firth, and others. Filed September 17.

Robinson, George Potter Antoine, 99, Market Jew-street, Penzance, Cornwall, ironmonger; £220. In favour of David Bishofswerder. Filed September 14.

Roe, James Thorne, Rose Hill House, Rose Hill-road, Wands worth, ironmonger; £150. In favour of William S. Hawgood, Filed September 12.

Searle, William, 37, Silver-street, Golden-square, sewing machine agent; £60. In favour of L. and W. Loan Co. Filed Sept. 13.

Smith, William Alfred, 280, Broad-street, and Alexandra-road, Belgrave-road, Birmingham, bicycle and tricycle manufacturer; £40, &c. In favour of Ward, Jones, and Co. Filed September 13

Walker, Emma, trading as E. Walker and Son, 7, Earl's Court-road, Kensington, ironmonger; £66, &c. In favour of Thomas Fairhead. Filed September 20.

Hawley, John, 1, Reaston-street, New Cross-road, ironmonger; £58, &c. In favour of Thomas Fairhead. Filed September 2.

Long, Josiah, Gresham House, Marmion-road, Southsea, Hants, ironmonger; £65. In favour of Thomas Nicholson. Filed August 31.

Raines, John, Crescent-road, Dukinfield, Cheshire, machinist £150, &c. In favour of Thomas Tumelty. Filed September 3.

Thompson, John, 47, St. Steven's-street, Copley, Halifax, sewing machine dealer; £19, &c. In favour of Gledhill Fallas. Filed September 1.

Day, George, 7, Maude-road, Camberwell, and 2, Hinton-road, Loughborough Junction, sewing machine and bicycle dealer; £35 11d, &c. In favour of Westminster Advance, &c. Bank. Filed September 6

Edwards, Thomas, Garston-terrace, Hornsey-rise, ironmonger

&c.; £50. &c. In favour of William R. Cohen. Filed September 9.

Gill, John, 138, Coates-street, and Lower Osborne-street, Bradford, Yorks, wriuging machine maker; £29. In favour of Bradford Discount Co. Filed September 9.

Horn, George, Overbury House, Overbury-street, and 157, Rushmore-road, Clapton-park, ironmonger, &c.; £78 2s. 6d. In favour of Consolidated Credit, &c. Corporation. Filed September 9.

COUNTY COURT JUDGMENTS.

Lisle, J., Holsworthy, Devon, ironmonger; £10 8s. 1d. July 19.

Lister, Joel, 9, Suffolk-street, Sheffield, cutlery manufacturer; £14 0s. 1d. July 14.

Melhuish, Sydney, 8, New-road, Gravesend, sewing machine dealer; £14 7s. 11d. July 19.

Portsmouth, Albert, Wote-street, Basingstoke, Hants, ironmonger; £24 15s. 10d. July 19.

Portsmouth, Albert, Church-street, Basingstoke, ironmonger; £18 9s. 11d. July 21.

Raison, H. W., 11, Rochester-row, Westminster, ironmonger; £14 8s. 3d. July 28.

Wilkin, Benjamin, 41, Oxton-road, Birkenhead, ironmonger: £12 10s. 10d. July 19.

Gough, James, 14, Bridge-street, Burton, Staffs, ironmonger; £12 19s. 2d. August 11.

Harrison, Thomas, High-street, Belper, Derbyshire, ironmonger; £11 4s. August 22.

Jordan, J. H., St. Helens, Lancashire, ironmonger; £10 11s. 2d. August 10.

Jordan, J. H., St. Helens, Lancashire, ironmonger; £18 18s. August 19.

Plucknett, S., Cheltenham-road, Bristol, bicycle maker; £15 8s. 2d; August 22.

Sanderson, W. A., 114, Victoria-street, Grimsby, ironmonger £12 2s. 1d. August 19.

Wills, R., 13, Guildford-road, Poplar, ironmonger; £11 8s. 5d. August 16.

Noble, John Harrold, Beds, ironmonger; £15 10s. 11d. July 27.

Powell, —, 25, North-end, Croydon, ironmonger; £10 12s. 11d. July 22.

Crewe, H., Ledbury, Herefordshire, ironmonger; £17 3s. 9d. August 2.

Triggs, W., 16 to 20, The Arcade, Landport, sewing machine dealer; £22 10s. August 2.

Weston, Charles Frederick, Godalming, ironmonger; £13 2s. 11d. August 5.

DISSOLUTIONS OF PARTNERSHIPS.

Buckley and Millington, Crown-street, Wellington, Salop, ironmongers. August 24. Debts by Edward Richard Millington.

Cleworth, A., and Co., Bolton, trading as James Taylor, Warrington, sewing machine dealers. July 19.

Johnson and Lauce, Wareham, ironmongers. August 15. Debts by John Johnson.

Myall and Haslen, Bannister-green, Felstead, machinists. Feb. 2. Debts by John James Haslen.

Thornton, E., and Son, Horton-lane, Bradford, ironmongers. August 5. Debts by Ebenezer Thornton.

CURIOUS INSTANCES OF THE IMPORTANCE ATTACHED TO COVERINGS FOR THE HEAD.

An interesting description (says *The American World*) was printed the other day of a scene in the House of Commons, where Mr. Gladstone was not allowed to speak, being without his hat, and finally had to borrow a head covering from another member of the Government, which, being several sizes too small, necessitated on the part of its temporary wearer about as careful demeanour as is demanded of an acrobat balancing a ladder on his chin. The House, it might be remarked by a cynical Tory, has suffered its privileges to be invaded on one side by the Obstructionists and on the other by the Speaker and the Government, but it drew the line at the hat. Hats are very important things in political as well as in social affairs, as any one will soon find out who takes the trouble to study the subject, and this in the present time, too. When the President of the French Chamber of Deputies has failed with much clanging of his bell and straining of his lungs to restore order during a particularly noisy debate, the gesture of reaching for his hat will prove as effectual as that of his brother in the English Commons' chair sending the mace in pursuit of a committee.

It is different in the German Parliament, or, rather, it was different on one memorable occasion 18 years ago, where, when the President, Herr von Bochum-Dolfs, threatened Gen. von Roon that he would "have his hat brought," the Minister of War answered defiantly, "I have nothing in the world to say against your hat being brought."

Hats not very many months ago played an important part in overthrowing a Turkish ministry and changing the policy of the Ottoman government at a very critical period. The Sultan's secretaries, like all the rest of the world at Constantinople, had been discussing among themselves the possibility of certain changes and the probability that before long the European powers might actively interfere in the management of public affairs. "Who knows," said one of them, "if we shan't all be wearing shapkas before many months are over?" The European hat or "shapka" is hated by the true Turk, and is used by him as a term of contempt to designate the ghiaour in contradistinction to the fez of the Osmanli. Some of the secretaries scouted the idea, others laughed at it; one of them made a pen-and-ink caricature of the group as they sat, each wearing a chimney pot hat, and passed it round. There was much laughter and thoughtless merriment, as may be supposed, but a traitor among the lot possessed himself of the sketch and secretly laid it before his Majesty. The next day saw the imperial secretaries on the pavé, a proof how dangerous it is to venture on a joke, however harmless, within the grim circle that surrounds a throne, or, as Shakespeare would say, that uneasy lies the head that wears a hat.

There has been a severe contest in Bulgaria and Roumelia during the last four years over the kalpak and the fez, a contest in which the Vienna merchants became interested, when in one year the export of fezes fell off 600,000. The subject was discussed at length, and in a very readable fashion, by one of the London newspapers. The fez (the writer said) is at once a very ancient and a very modern head-dress, and the kalpak is historically quite as much a Mahometan as a Christian coiffure.

Osman Sultan Ghazi wore a convex-headed and not a porringer-shaped skull-cap, round which a turban was swathed while from the back fell a richly embroidered "puggree." Mahomet the conqueror wore a small turban, almost like a night-cap, and without any skull-cap at all. Suleiman, the legislator, affected an enormous turban of the size and shape of a prize pumpkin, surmounted by an ostrich plume. Gigantic and gourd-shaped was likewise the turban of Selim II., and it was crowned, moreover, by a kind of gilt pine-cone. A somewhat similar spheroid, but with a coronal resembling a raised pie, was donned by the Aga of the Janissaries. The Turkish troops in 1580 wore caps precisely similar to the shakos of the Hungarian hussars in the last generation, the "busbies" of horse artillery, and the "muff caps" of grenadiers; and when regiments of dragoons were first organised in France by Louis XIV. the uniforms of the troops were avowedly designed from Turkish models.

Sultan Ibrahim Khan wore neither fez nor turban, but a veritable fur kalpak—a "bonnet a poil," of which a French grenadier of the Old Imperial Guard might have been proud, adorned with gorgeous brilliants and emeralds. Selim III., whose hair rivalled that of Julian the Apostate in lengthy luxuriance, patronised, instead of a fez, a monstrous black "tarbouch," not unlike the brimless hat of a Greek archimandrite. Round the "tarbouch" was folded a thick "pudding," or turban, the front of which was adorned by a superb diamond aigrette, and the whole towering edifice was completed by a huge rigid horse-hair plume of the "shaving-brush" pattern. The Grand Vizier of this "dressy" monarch wore a winged cap very much like that of a modern sister of charity; his Caimakan appeared with a sort of inverted sugar-loaf on his head; the Reis-Effendi loomed large in a four-cornered kalpak, while the gala head-gear of the Kuadjighian, or members of the divan, might be mistaken for so many exaggerated Glengarry bonnets.

ELASTIC WEB MANUFACTURE.

It is now nearly 150 years a party of French savants travelling in South America were attracted by some of the garments worn by the natives, and which had been rendered impervious to water by being steeped in the milky juice of a tree indigenous in Brazil, and called by the inhabitants *Hhvé*. On examination they found this peculiar gum or sap to be tasteless, scentless, white, very inflammable, not affected by exposure to the atmosphere, insoluble either in water or alcohol, but capable of solution by means of ether or essential oil. Since that day the family of trees capable of producing india rubber or caoutchouc have been cultivated with more or less success in many tropical countries both in Asia, South America, and Africa, and how important an article of commerce it has become may be estimated by some account of a visit we recently paid to the well-known elastic web manufactory of Messrs. Henry Turner and Sons, whose boot-webs have so long been favourably known to the trade in all parts of the civilised world.

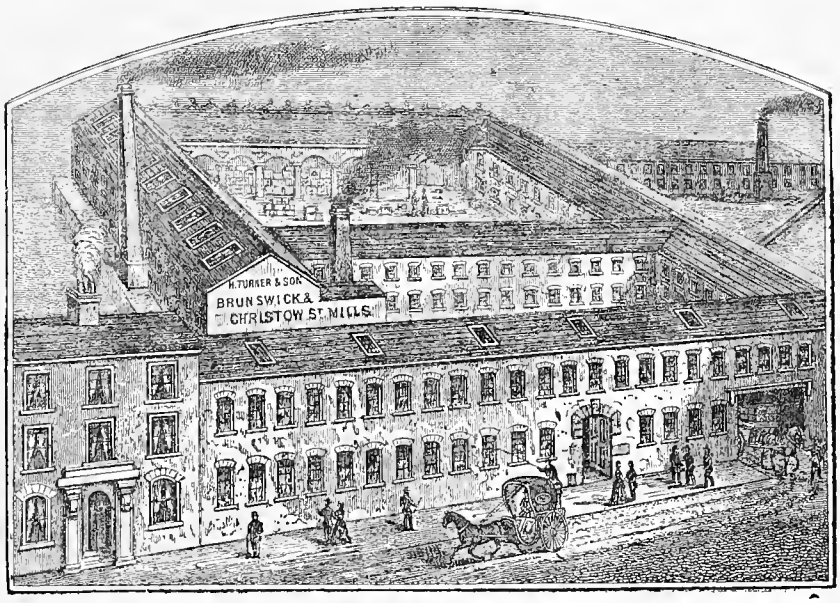
It is very curious to note how special industries become localised in certain parts of the country—Redditch supplying the needles, High Wycombe the chairs, Leek the sewing silk, Sheffield the knives, Nottingham the lace, Paisley the thread, and Kidderminster the carpets for half the civilised world. Thus it has come about that Leicester, which has already gained a considerable reputation for its hosiery manufactures, has also become the seat of the elastic web trade, sharing with Coventry and Derby in the production of the many varieties of elastic material which are now produced by the application to manufacturing purposes of the curious waterproof gum which the French academicians first introduced into Europe.

The name of Turner has long been associated with the Leicester web trade, and we expected, therefore, to be able to gather some interesting information from our visit to the Brunswick-street Mills, which, as will be seen from our illustration, are of a very extensive character. Fortunately, we had obtained an introduction to Mr. W. E. Jefferson, under whose management the business is very ably conducted, and to whose inventive skill many important improvements in the machinery are also due.

The rubber is received into the mills in large hanks or skeins, and varies in thickness from about one-eighth to one forty-eighth of an inch, according to the purpose for which it is intended, the finer kinds, such as are used for sandal webs and the like, are wound upon reels by a number of boys, the black lead, which is used as a sort of lubricator, to prevent the strands from chafing, imparting anything but an angelic appearance to the faces and hands of the young gentlemen so employed.

As our chief interest lay in the manufacture of the webs which are used for side-springs—after an inspection of the store-rooms, where the rubber skeins are warehoused, we next turned our attention to those departments devoted to the storage and perforation of the various fabrics employed to cover the elastic and thus form the finished web, consisting, as our readers are aware, of silk, wool, and cotton of various colours and qualities. Of these the silk, of course, is the most important and costly, many thousand pounds worth of raw silk being stored away on the shelves of Messrs. Turner's silk-yarn room in the raw state, exactly as it comes from Italy or China, which are the two chief silk-producing countries of the world. As required, it is sent to be dyed; France, Germany, and some parts of the United Kingdom, excelling in this particular branch of industry. It is then made up into skeins of about 1,000 yards in length, weighed by means of a dramming machine, the average weight of a skein being from three to four drachms. It is then ready to be given out to the warpers and winders. The duty of the winders is to place the skeins on spindles, from whence they are wound on to bobbins ready for the looms. They are then taken back to the stock-room and re-weighed, the winders being held respensible for all deficiency, after allowing a certain percentage for unavoidable loss of weight. The next process is that of the warper, who from a stand containing a large number of the bobbins, winds all the threads on a large frame, some eight yards in circumference, care being taken that they do not get mixed or cross each other in any way. From this frame the silk is next transferred to the weaving-beam. The warping process, as applied to silk, is all performed by hand-labour, but for the cotton and woollen threads machinery is used, the threads passing direct from the stand on which the bobbins are placed to the beam.

The next process is that of weaving the elastic and silk threads together to form the web, which, when complete, becomes either Plain, Twilled, or Terry Web, according to the arrangements of the machine employed, the favourite kind being the Terry, which is produced by looping the thread very much in the same way as in the manufacture of Brussels carpets. Messrs. H. Turner and Sons also produce a special kind of web, which is manufactured by a process patented by Mr. Jefferson, which imparts great durability to the web, and also gives the back of the fabric a soft and pleasant feel. This



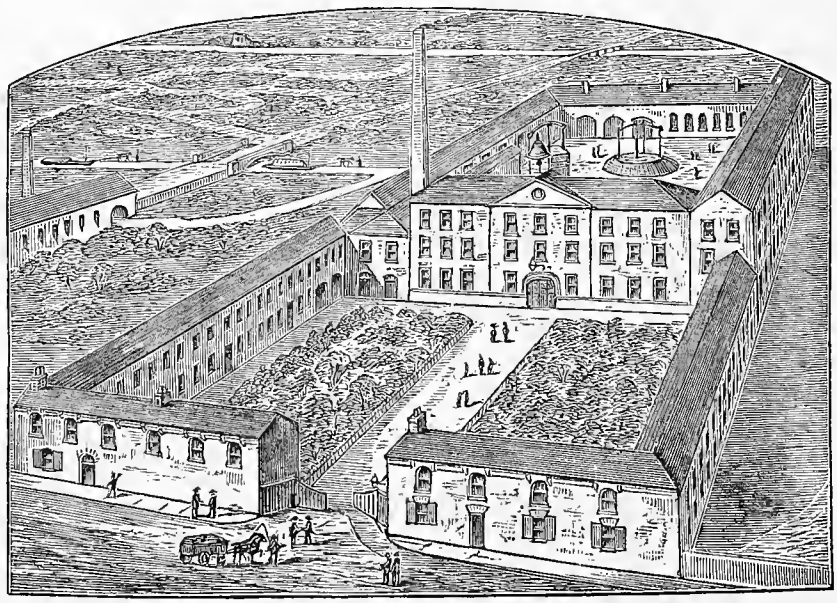
BRUNSWICK STREET MILLS.

is accomplished by adding an additional warp to the back, and the machinery by which this effect is produced is of the most interesting and ingenious description. At the back of each loom is an appliance for keeping the elastic, during the process of weaving, at full tension; when released, that which measured, say, a yard, is reduced to about one-third of that length. From the looms the webs are next handed over to the "pickers," who carefully examine it, and pick out and rectify any flaws they may find. Next, they are put on the stretching machine again at full tension, and are then passed through heated rollers, which gives an appearance of smoothness and finish. After being allowed time to resume its normal condition, the web is measured by a special machine constructed for the purpose, due allowance being made for subsequent shrinking. It is then ready to be carded or boarded for sale, in lengths varying with the market for which it is intended.

Perhaps the most important and delicate process connected with the manufacture is that of warping, as it is of the greatest consequence that there should be an even and equal tension on each strand of the rubber, and the late Mr. Samuel Turner introduced various improvements into the warping machines used by the firm, by which the edgy appearance noticeable in some webs is entirely avoided.

The numerous kinds of elastic, such, for example, as those used for pocket-book bands, braces, garters, &c., are produced in a similar way, except that beams are not used, the warp being conveyed to the loom from rows of bobbins at the back, the coloured stripes and patterns being produced by the variety of colours wound on to the different bobbins. The braided cords, such as those used for hat guards, &c., are produced by means of dotty machines, a number of small bobbins containing the thread being placed on steel spindles or pipes, the elastic rising from another pipe in the centre of them. A transverse motion is given to the spindles, and thus the elastic is effectually covered with braid. Attached to these machines, we noticed an ingenious contrivance, whereby the machine comes to a complete standstill the moment any one of the threads becomes accidentally broken, the production of imperfectly braided elastic being thereby simply impossible.

How many thousands or hundreds of thousands of spindles Messrs. H. Turner and Sons keep going at one time in these extensive mills we should hardly like to say; all we knew is that we passed through one large room after another full of busy people tending row after row of spindles, all going it as if they had just found out the secret of perpetual motion, and meant to make the most of the discovery.



THE ABBEY MILLS.

We next visited the packing rooms, where we saw large piles of elastic of all kinds being packed for home and export trades. On leaving the Brunswick-street Mills we next paid a visit to the Abbey Mills, where the first looms were erected many years ago for the production of rubber web. These extensive mills have recently been acquired by Messrs. Henry Turner and Sons, and are devoted to the production of several very special kinds of rubber web, as, for example, those used for pocket books, braces, garters, &c. We have given illustrations of both the Brunswick-street and Abbey Mills premises, which will enable our readers to form some idea of the magnitude of the business carried on by Messrs. Hy. Turner and Sons.

OUR ILLUSTRATED SUPPLEMENT.

An improved and valuable labour-saving machine used in the manufacture of boots and shoes is Dennel's Sole and Heel Cutting Machine, of which we give an illustration.

THE INDUSTRIAL EXHIBITION AT WOLVERHAMPTON.

During the past month an industrial exhibition, consisting of domestic and sanitary appliances, has been held at Wolverhampton. A collection of gas cooking and heating stoves, made by Hassall and Singleton, of Birmingham, formed a prominent feature of the show. Messrs. H. and C. Davis, Camberwell-road, S.E., exhibited a large number of their "Metropolitan" kitcheners, grillers, cooking and heating stoves, and Messrs. E. Siddaway and Sons, West Bromwich, showed a collection of gas cooking, heating, and boiling stoves. There were many other exhibitors, including Messrs. E. N. Kenworthy and Co., Beveredge and Robinson, Carbon Filter Co., F. and C. Hancock, Lloyd, Laurence and Co., &c.

The following advertisement recently appeared in the *Daily Telegraph*:—"New means of transport for any number of persons. London to Paris in four hours, London to New York in three days (not in a balloon).—The inventor of the above seeks a monetary partner to enable him to place his invention before the public.—For information address C. Burger, engineer, 3, Chemin Neuf, Eauxvives, Genève." There is no panic in steamship or railway property at present. Balloons, too, are still rising.

Edinburgh Bicycle & Tricycle Exhibition, Dec., 1880

Where the Latest and Most Improved Machines for the Present Season were Exhibited.

THE ONLY SILVER MEDALS FOR

BEST ROADSTER BICYCLE AND BEST ROADSTER TRICYCLE

Were awarded to the "CENTAUR" COMPANY COVENTRY,

THE TEST BEING

EXCELLENCE of WORKMANSHIP, INGENIOUS CONSTRUCTION, and EASE of PROPULSION

Full Descriptive Catalogues of the "Centaur" Bicycle and Tricycles, with Testimonials, Post Free on Application.

LIBERAL DISCOUNT TO SHIPPERS AND THE TRADE. RELIABLE AGENTS WANTED.

LISTER & CO., MANNINGHAM MILLS, BRADFORD,

MANUFACTURERS OF

MACHINE SILKS AND TWISTS,

BUTTON-HOLE SILK TWISTS,

KNITTING AND EMBROIDERY SILKS, FILOSELLE, &c.

Recommended for Strength, Evenness and Pure Dye. Length indicated on each Label guaranteed.

ONE TRIAL WILL PROVE THEIR SUPERIORITY.

L. & Co.'s Knitting Silks Wash as Well as any produced.

Sold by all Drapers, Haberdashers, Berlin Wool Houses, Sewing Machine Agents, &c.

Wholesale Depot: London, 2, FALCON SQUARE, E.C. Manchester: 26, YORK STREET.

THE NEW STRAIGHT NEEDLE MACHINE

"Phœnix,"

Made on the new Wheeler and Wilson's principle (No. 8).

LATEST IMPROVEMENT: THE LOOSE WINDING WHEEL.

NEW HAND MACHINES ON THE SAME PRINCIPLE.

NOISELESS, LIGHT RUNNING AND DURABLE.

BAER & REMPEL, Billefeld, Germany. Sewing Machine Manufacturers.

PRIZE MEDALS AWARDED, VIENNA 1873, PARIS 1867.

"The Coventry Triumph" Bicycles & Tricycles.

WARMAN, LAXON, ASLATT & CO.,

WEST ORCHARD, COVENTRY,

WHOLESALE AND EXPORT MANUFACTURERS.

India Rubber Tyred Bath Chair and Perambulator Wheels. Speciality Children's Bicycles and Tricycles. Manufactures for this Season cannot be surpassed. Price Lists on Application.

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TOWER WORKS, PIPER'S ROW, WOLVERHAMPTON,

MANUFACTURERS OF THE "EXPRESS" BICYCLE,

AND

BICYCLE FITTINGS OF EVERY DESCRIPTION.

WHOLESALE AND FOR EXPORTATION.

THE LARGEST **SEWING** Machine "Belt" Manufacturers.

THE LARGEST SEWING **MACHINE** Oil Manufacturers.

THE LARGEST SEWING MACHINE **FITTINGS** Warehouse.

Bishop's Cluster Company, Limited, 25, Hamsell St., London, E.C.

SEWING AND MACHINE NEEDLES.

ALL KINDS OF FANCY NEEDLES, KNITTING PINS, CROCHET HOOKS, THIMBLES, &c.,

THE PARK WOOD MILLS CO.,

NEEDLE MANUFACTURERS,

Price Lists Free. 230, BRADFORD STREET, BIRMINGHAM.

"EMPIRE" WASHER.

THE BEST AND CHEAPEST MACHINE FOR FAMILY USE YET OFFERED TO THE PUBLIC.

PRICES.

No. 1.	- - - -	£1	10 0
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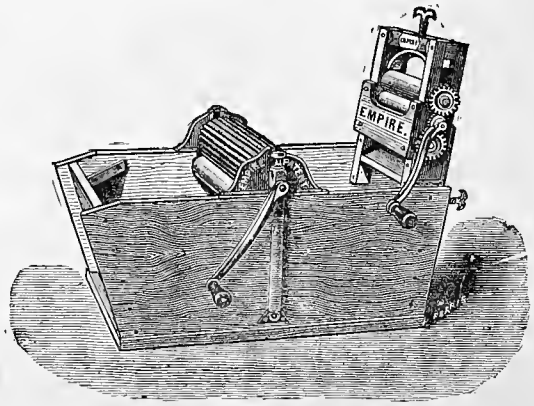
Liberal Discount to the Trade. For Illustrated List apply to Makers,



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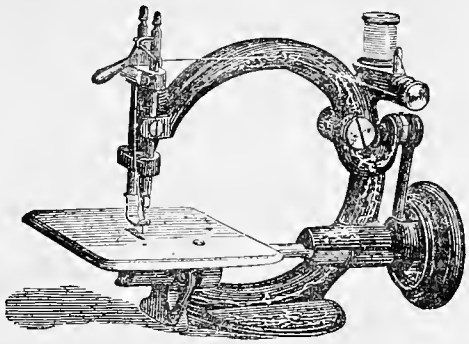
MANUFACTURER OF SEWING MACHINES,



Either for Hand, Treadle, Stand, or Power. Lathes from 3½ inch upwards.

39, CHESTER STREET, HULME,

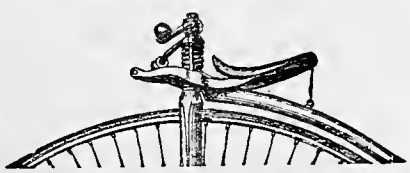
MANCHESTER

MAX MANASSE, BERLIN. *Markgrafenstr. 62.*

Manufacturer of **OIL CANS,** *Wholesale & Export.*

SURREY MACHINIST COMPANY.

Patent Double Section Hollow Rims, 18s.6d per pair.



The Lightest and most rigid in the Market.

INVINCIBLE,

The only machine made with a perfect

SUSPENSION SPRING AND SADDLE.

The Patent D.S.H.R. Racer is the lightest and most rigid machine in the world List and Photo 4 Stamps. Illustrated List of Bicycle Fittings stamp. Special Terms to Shippers and Agents.

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INDIARUBBER BICYCLE and CARRIAGE TYRES of every description kept in stock, and supplied by return. Indiarubber Air Saddles, 7s. 6d., post free all kinds of Bicycle requisites supplied in the rough or finish. Illustrated Price List, 1 Stamp. SMITH & Co., Indiarubber Manufacturers, 87, Black man-st., London

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OLDHAM,

MANUFACTURERS OF THE CELEBRATED

Family and Medium Machine

WITH ALL THE LATEST IMPROVEMENTS.

ALSO MANUFACTURERS OF THE

VICTORIA MACHINE,

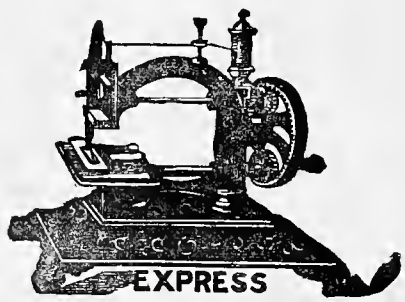
On the Wheeler and Wilson Principle.

Special Terms to Merchants and Shippers.

A LARGE STOCK OF

ROLLER RINK SKATES,

From **6/-** per pair.



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OF EVERY DESCRIPTION.

Sole Agent for the "Little Europa" Lock-stitch Sewing Machines, and Royal Rink Roller Skates.

No. 1, NEW BROAD STREET,
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Lock-Stitch Sewing Machines from **27/** each.

TO INVENTORS. GENERAL PATENT OFFICE

ESTABLISHED 1830.

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(Successor to L. De Fontainemoreau & Co.),

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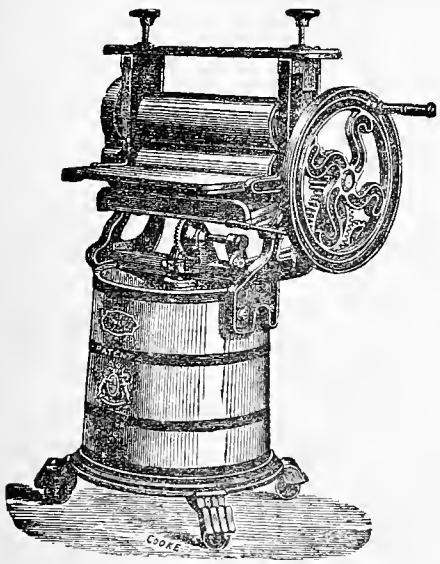

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Washing, Wringing, and Mangling Machines,

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Morticing Machines and Circular Saw Benches

MANUFACTORY:

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SPECIAL TERMS TO MERCHANTS AND THE TRADE.

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THE ROYAL WASHER. strong and simple in construction. An ornament to every home, and the delight of every wife. Price, 22 inceef, £5 10s. Rollers with Brass Caps.

THEOBALD'S HYDRAULIC SELF-ACTING WASHER,

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This new Washer positively surpasses all others. It acts on an entirely new principle, doing away with all knocking about, pounding, squeezing, brushing or rubbing. The effect is simply marvellous, and must be seen to believed.

The Machine is simply stood in an ordinary copper or wash boiler, the clothes packed around it, the water made to boil, and it then, by a well-known hydraulic principle, rushes up the Machine and is sucked through the clothes at the rate of 8 to 10 gallons per minute. Illustration and full particulars free.

Agents wanted everywhere. Liberal discount and such terms that there is no risk whatever.

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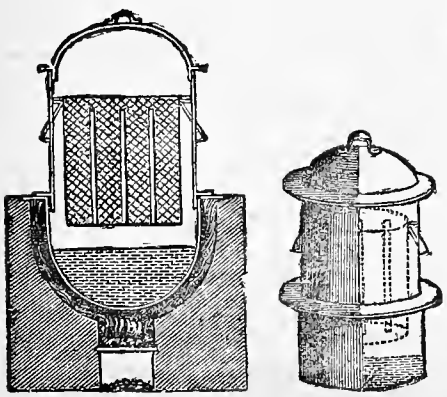

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MAGIC STEAM LAUNDRY WASHER

SECURED BY ROYAL LETTERS PATENT.

The cheapest and most economical Washer introduced, avoiding all the wear of linen caused by present modes. Things to be washed only require to be soaked, soaped, steamed, and hand-rubbed once,

Steamed 20 Minutes over Copper.

No use of chemicals, soda, dollies, maids, wash-boards; no turning or pushing machine handles; only one-half the soap used. See opinion of JESSE OVERTON, Springfield Laundry, Leamington, in *Queen* of 17th of July, page 68:—"The steam softens, and the condensed water carries away grease and stickiness, just as a belt of perspiration does off a dirty forehead."

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THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

Power.	Price.
One Man	£25 0 0
One-and-a-half Man	30 0 0
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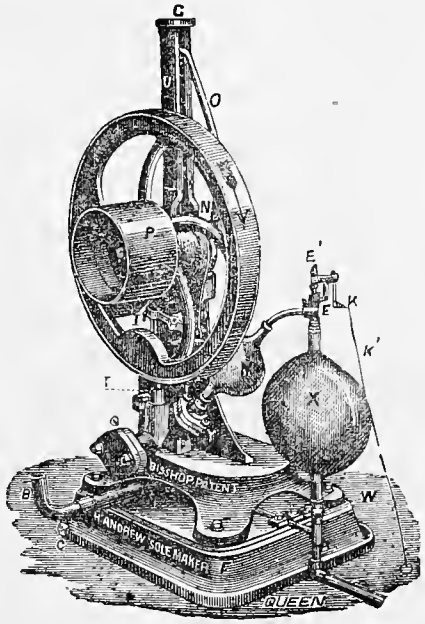

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Is the leading Wringer of America.

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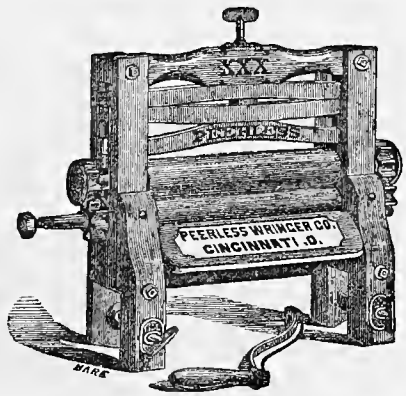

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The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

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In bulk or bottle to order.
"SOLAR" BICYCLE LAMP OIL,
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MACHINERY OILS,
As consigned to us by the drum or barrel.

SEWING MACHINE TRADE SUPPLIES—
OIL CANS, SCREW-DRIVERS, NEEDLES, RUBBERS, BELTS, FITTINGS and PARTS.

DOMESTIC MACHINERY—
In all its branches.
SOLE AGENTS for the HAMILTON MANUFACTURING Co. Manufacturers of the "WALKER WASHER" and DOMINION WRINGER.
IMPORTERS of AMERICAN KNITTING MACHINES, NOVELTIES, and HARDWARE.
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EAU DE COLOGNE
OF THE
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MARIA CLEMENTINE MARTIN,
Opposite the CATHEDRAL, COLOGNE.

"The samples of Eau de Cologne sent to the Exhibition by Maria Clementine Martin, Nun, of Cologne, were unanimously acknowledged by the Jury as the best. The precious liquid seemed to contain all the different scents, whilst, on evaporating it, none of them became particularly recognizable. Martin's Eau de Cologne, which was rewarded with the Prize Medal, in general, served as means for comparing and judging the other perfumes." In bottles, 1s., 2s., 3s., 5s. 6d., and 10s. 6d., of all Chemists, Perfumers, and Fancy Dealers.

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PRICE LIST.

	Duty paid, net.	In bond.
2 oz. shorts, Eau de Cologne	8/-	— 5/-
4 oz. ,,	15/-	— 10/-
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Half-pints	25/-	— 17/3
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Small cases assorted to order (of not less than £3 value in bond) delivered free freight, less 7½ per cent. discount. May be obtained on these terms of any Wholesale House, or at the London Depot :—

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THE MOST PROFITABLE BRAND.

HILLMAN, HERBERT, & COOPER,

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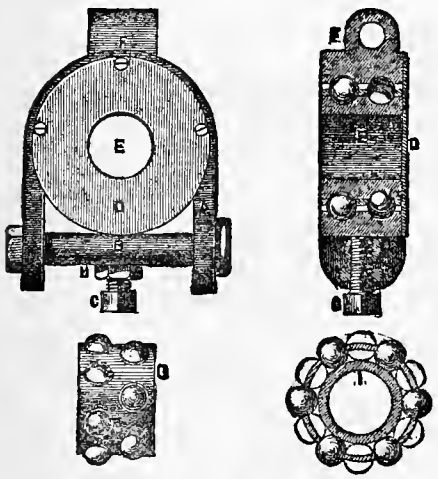
"Premier," "Flying Dutchman," & other Bicycles & Tricycles.



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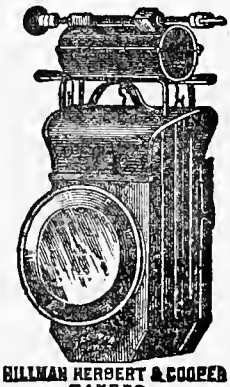
BALL BEARINGS.



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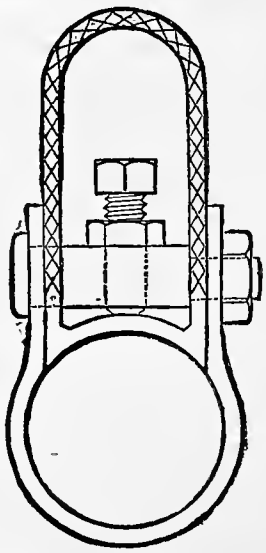
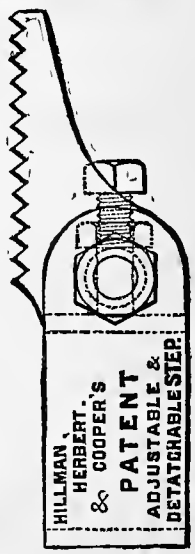
The only Lamp that does not go out on a rough road.





On the "**D.H.F. PREMIER,**" fitted with our Patent Ball Bearings, was accomplished The greatest distance ever ridden in one week, viz. :—**1,405 MILES**, and on the same Machine The greatest distance in one day is **262 MILES**.

SEND FOR CATALOGUE FREE.

TESTIMONIALS.

Please send another large size "Cooper's Patent" Lamp, so that I may get it to-morrow. It is the grandest thing in Lamps that I have ever seen or tried.—Yours truly, W. Tattersfield.

Dear Sirs, Brighton, December 27th, 1880.

We have much pleasure in testifying to the excellence of "Cooper's Patent Lamps," which give great satisfaction.

Yours truly, H. Revell Reynolds, jun., Dark Blue B.C., and L.B.C.
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All Communications to be addressed to the Works, COVENTRY.

THOMAS SMITH & SONS,

ESTABLISHED 1848.

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THE ORIGINAL MANUFACTURERS OF

BICYCLE FITTINGS,

EVERY PART SUPPLIED IN VARIOUS STAGES,

From the Rough Stamping or Forgings to the Complete Finished Article.

None but the very best Brands of Material used for the several purpose embracing LOW MOOR IRON, BEST BEST GUN, &c., &c.

VERY SPECIAL IN ALL SUNDRIES AND APPLIANCES,

INCLUDING ALL NEWEST DESIGNS AND PRINCIPLES IN

SADDLES, VALISES, SPANNERS, LAMPS,

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Works:—Saltley Mill, Birmingham.

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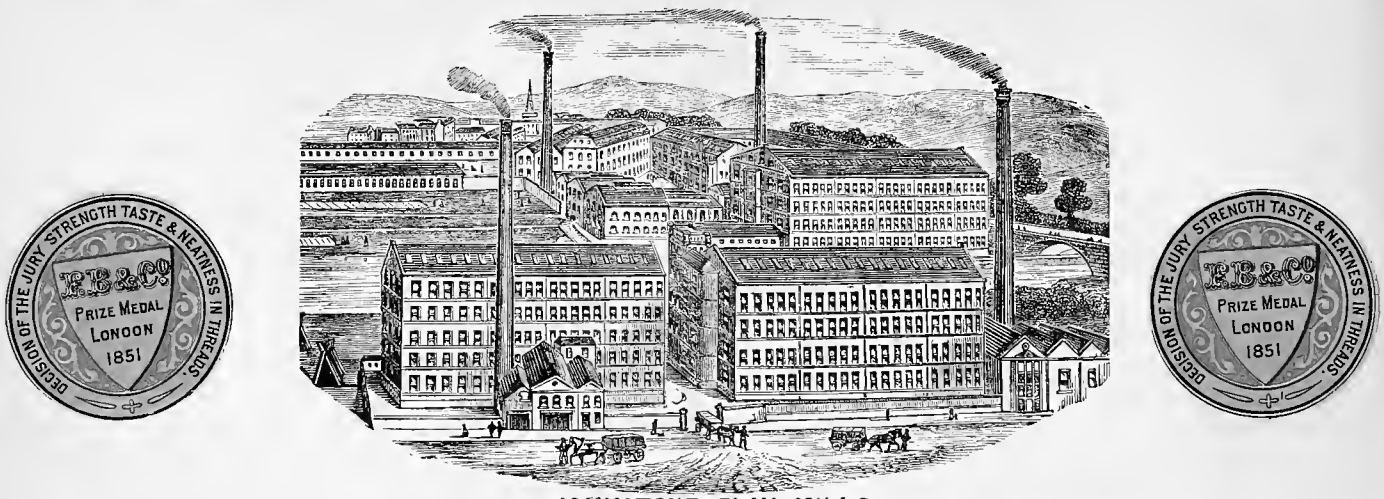

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INDEPENDENT TESTIMONY.

FINLAYSON'S THREAD,

AT THE

GREAT AMERICAN LEATHER FAIR

The Threads manufactured by FINLAYSON, BOUSFIELD & CO. are in practical and exclusive use during the Exhibition in Mr. Tilton's Boot Factory, and by the Goodyear, the Blake, the Keats, the National Wax Thread Machines, and by the New International Dry Thread Machine. This, as a practical endorsement of this Thread, is certainly very suggestive, and it is doubtful whether stronger testimony, from those best qualified to judge, could possibly be given "as to the quality of the article under notice."—*Boston Advertiser*, September 10, 1881.

FINLAYSON, BOUSFIELD & CO.,

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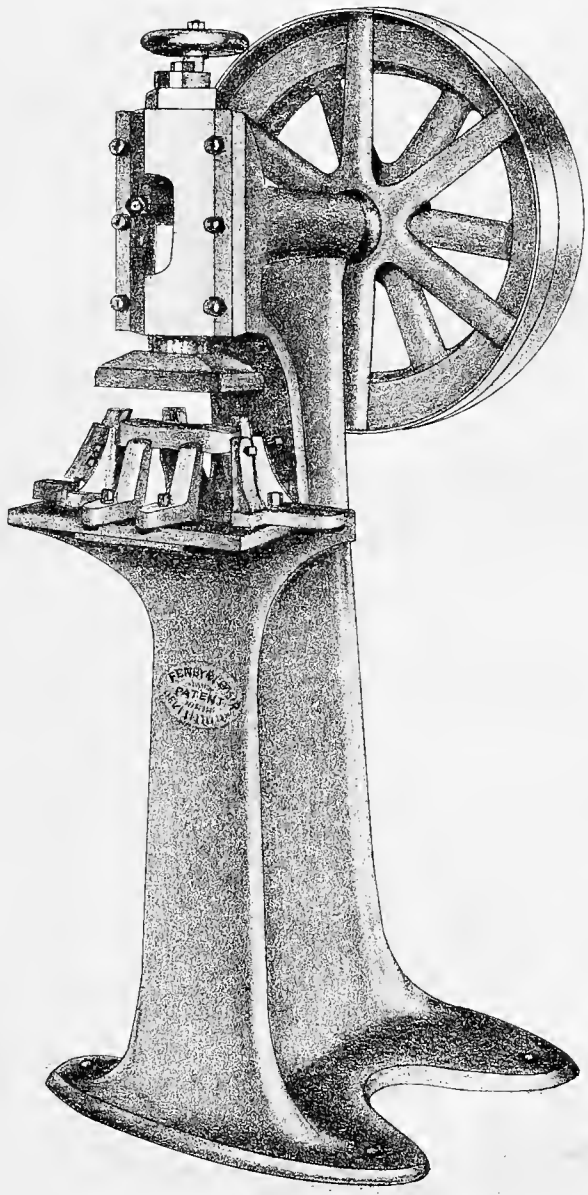
JOHNSTONE, near GLASGOW,

AND

GRAFTON FLAX MILLS, U.S.

Printed for the Proprietors, and Published by them at 4, Ave Maria Lane, in the City of London.

SUPPLEMENT TO THE SEWING MACHINE GAZETTE
AND JOURNAL OF DOMESTIC APPLIANCES.
OCT. 1ST 1881.



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exhibited by

FENBY & FRASER,

AT STAND No 181.

Neville Works, LEEDS.

JONES & CUTHBERTSON, 16, LITTLE TRINITY LANE, E.C.

THE JOURNAL OF

Domestic Appliances

AND

Sewing Machine Gazette.

Vol. IX. No. 132. NOVEMBER 1, 1881. Price, with Supplement, 4d.

DUNBAR, McMASTER & CO.,

GILFORD, IRELAND,

Manufacturers of all kinds of Linen Threads.

Highest Medals were awarded Dunbar & Co's Threads wherever exhibited

FOR HAND OR MACHINE SEWING OF ALL DESCRIPTIONS,

SUITABLE FOR ALL PURPOSES, SHOES, SOLE SEWING, TAILORS, &c.

DUNBAR AND CO.'S THREADS ARE THE BEST.

Samples and Prices on Application.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

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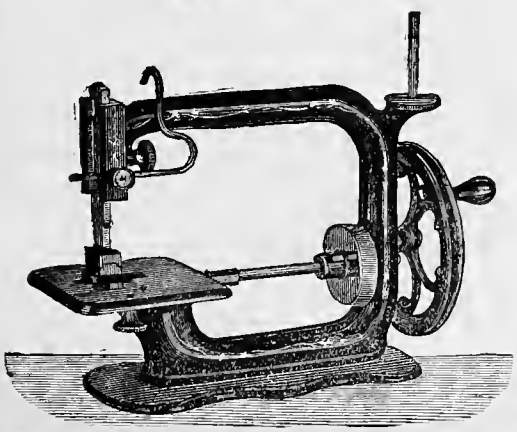

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SEWING MACHINE.

THE ONLY ORIGINAL MACHINE FOR

GAUGING, GATHERING, AND TUCKING.

CAUTION.

All the parts of the Heberling Machine are covered by the Patents granted in the United States, Great Britain, and throughout Europe, and any party discovered making, selling, or using an imitation of the Machine, or infringing on the said Patents will be prosecuted. Every genuine Machine bears the following fac-simile engraved on the work-plate :—"HEBERLING RUNNING STITCH SEWING MACHINE CO., U.S.A." To avoid Imposition buy only from our Certified Agents, or from the London Office direct.

The Trade and Shippers liberally dealt with.

WRITE FOR CATALOGUE & SAMPLE OF WORK TO

THE HEBERLING SEWING MACHINE CO., 46, CANNON STREET, LONDON, E.C.

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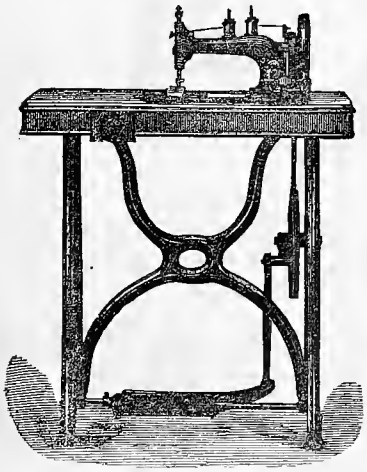

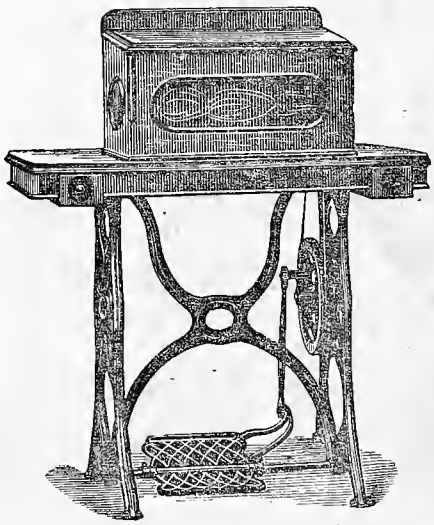

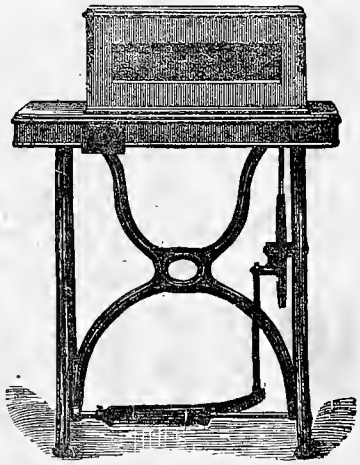

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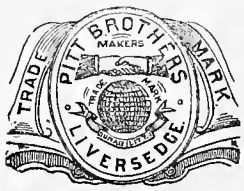
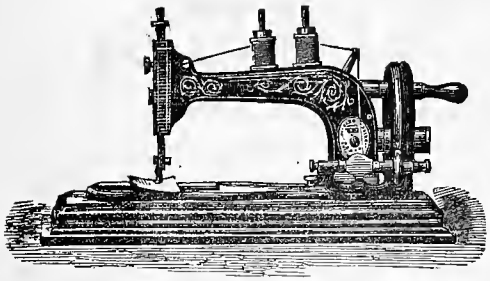
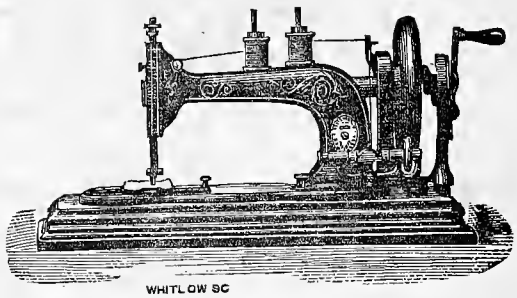


The Trade Mark is fastened on the Arm of each Machine.





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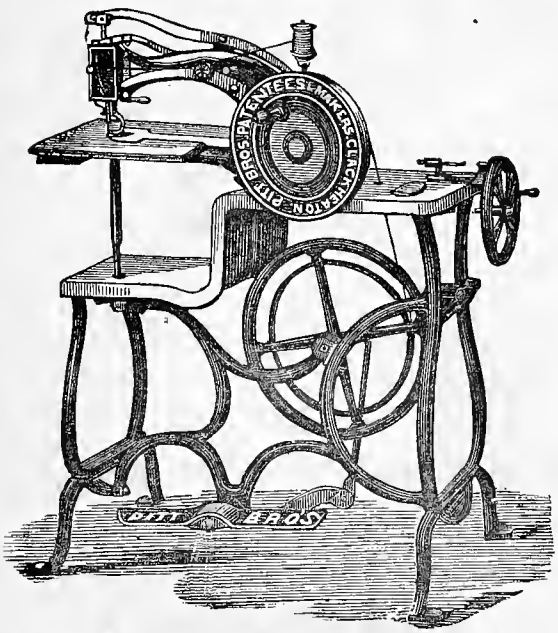

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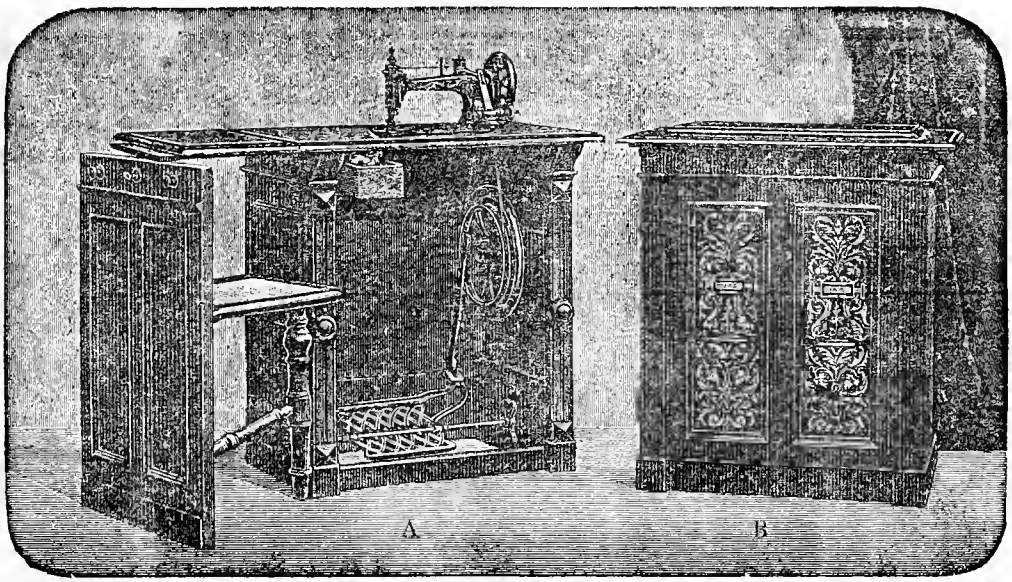

The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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LATEST NOVELTY.

☞ PATENTED IN ENGLAND AND OTHER COUNTRIES.

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Furnished for all systems of machines.

Very useful. More solid than iron stands.

Honourable mention and highest rewards at numerous Exhibitions.

Novel!
Cheap!
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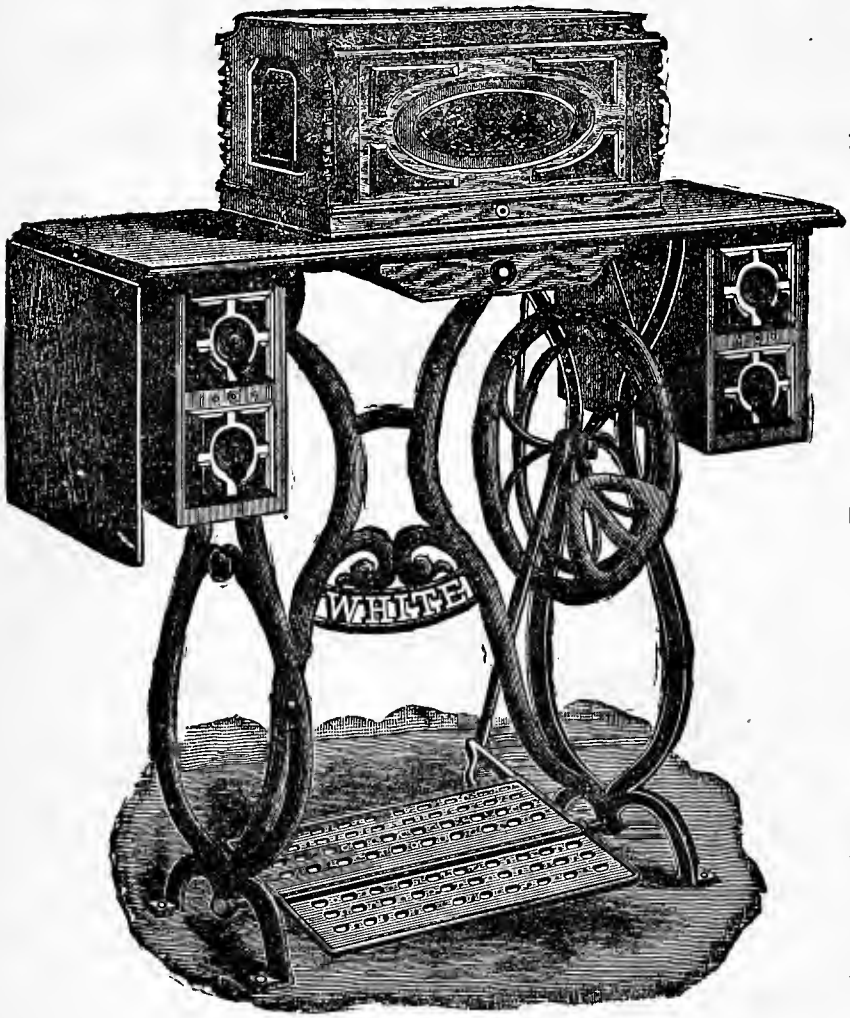

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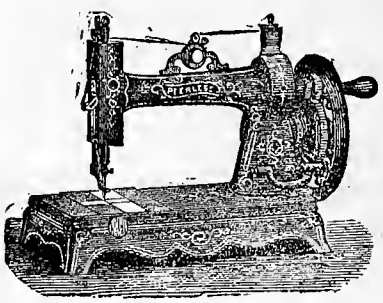

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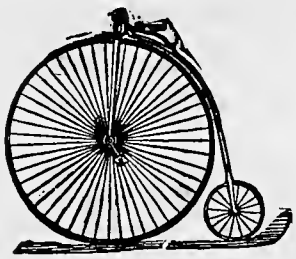
ADAPTED FOR EVERY DESCRIPTION OF WORK.

Families will find no other Machine which will do the same range of work. Sewing from the **finest** Muslin to several plies of heavy Cloth.

Dressmakers who once use THE HOWE give it the preference over **all others** for beauty and durability of Stitch.



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Complete with all Appliances from £4 4s.

Manufacturers of Boots and Clothing, who carry on a high-class trade, ONLY USE THE HOWE MACHINE.

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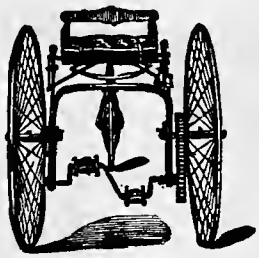

The Howe Machine Co. are also manufacturers of Bicycles and Tricycles.

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CANADIAN SEWING MACHINES.

£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly **simple, neat,** not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

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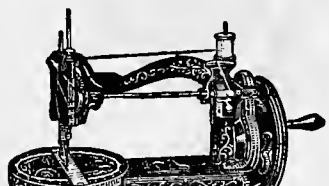

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The largest Sewing Machine Manufacturers in the World.

Upwards of **538,609** of these CELEBRATED MACHINES were Sold in the year 1880, being at the rate of over 1,800 for every working day.

THE GREAT SALE affords most convincing proof of their popularity and value, and is attributable to the reputation obtained for

Excellence of Manufacture, Strength and Beauty of Stitch,

AND FOR THEIR

Perfect Adaptability to every Class of Sewing.

PRICE from £4 4s.

FOR CASH from £4 0s.

May be had on "Hire, with option of Purchase," by paying

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PER WEEK.

No Household should be without one of the Family Machines, which are **unequalled** for all Domestic Sewing. So simple, a child can work them.

MANUFACTURERS should see the Manufacturing Machines!

Are unsurpassed for the Factory or Workshop!

CAUTION!

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Scotholme, Basford-road
Sheffield, 37, Fargate
Shipley, 19, Kirkgate
Shrewsbury, 4, Market-street
Sittingborne, 64, High-street
Southampton, 105, High-street
Southend, Market-place
Southport, 7, Union-street
St. Helen's, 31, Market-place
Stafford, 25, Gaol-road
Stamford, Ironmonger-street
South Stockton, 19, Mandale-road
Stockport, 11, Bridge-street
Stourbridge, 8, Church-street
Stratford-on-Avon, 19, Wood-st.
Stroud, 7, George-street
Swadlincote, Station Street
Swindon, 52, Regent-street
Tamworth, 54, Church-street
Taunton, Bridge-street
Torquay, 58, Fleet-street
Truro, 13, Victoria-place
Tunbridge Wells, Vale-road
Tunstall, 119, High-street
Wakefield, 9, Kirkgate
Walsall, 2, Bridge-street
Warrington, 44, Horsemarket-st.
Watford, Queen's-road
Wednesbury, 67, Union-street
Wellington, Church-street
West Bromwich, 5, New-street
Whitehaven, 70, King-street
Wigan, 21, King-street
Winchester, 27, St. Thomas-street
Windsor, 64A, Peascod-street
Winsford, Over-lane
Wirksworth, North-end
Wisbeach, 51, Market-place
Wolverhampton, Queen-street
Worcester, 2, St. Nicholas-street
Wrexham, 7, Charles-street
Yarmouth, Broad-Row
York, 24, Coney-street

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Aberystwith, Market-hall
Builth, High-street
Cardiff, 5, Queen-street
Carmarthen, 7, Lammas-street
Carnarvon, 5, Bridge-street
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Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
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Kilmarnock, 83, King-street
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Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
Perth, 64, St. John-street
Peterhead, Rose-street
Stirling, 61, Murray-place
Tain, Lamington-street
Thurse, Princes-street

IRELAND.

Armagh, 2, Ogle-street
Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st
Belfast, 3 and 4, Donegal-sq., N.
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
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Kingstown, 65½ Lower George-st
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Navan, Trimgate-street
Newry, 18, Sugar-island
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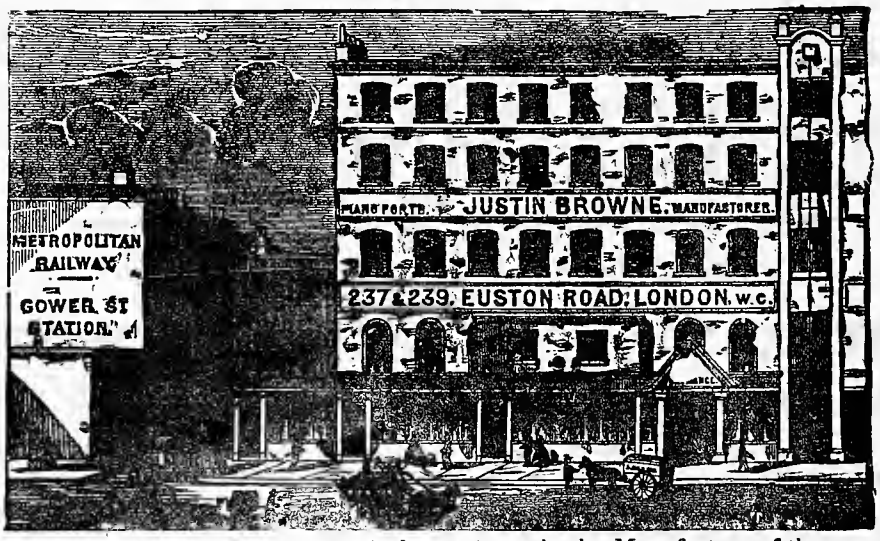

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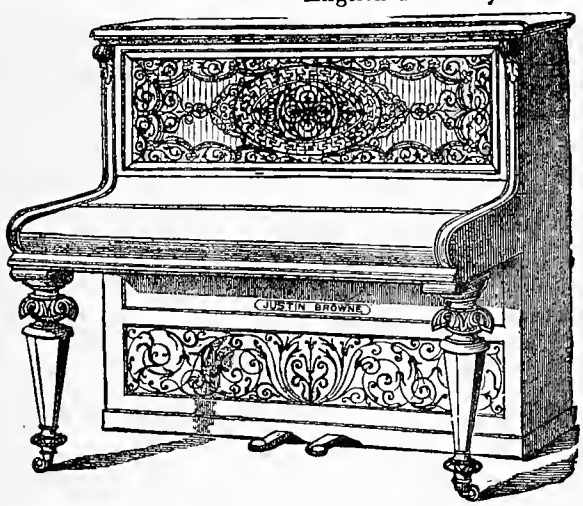

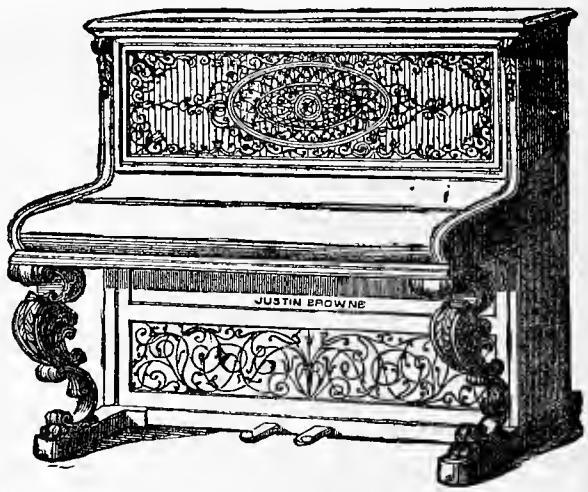

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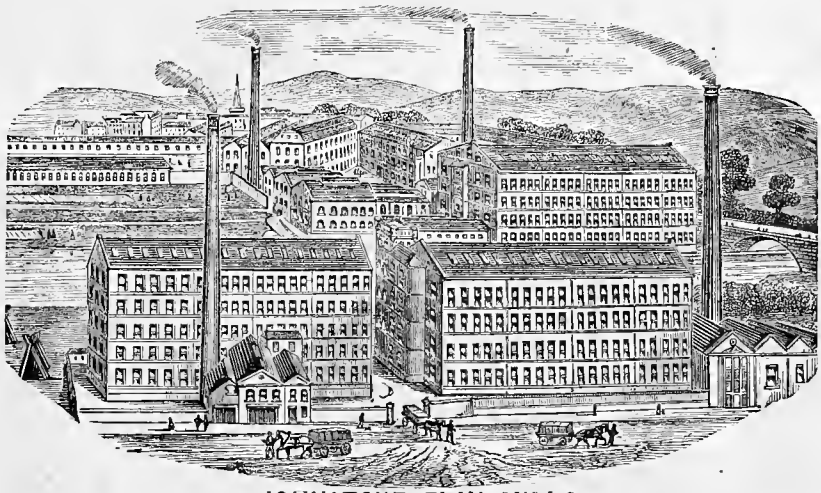

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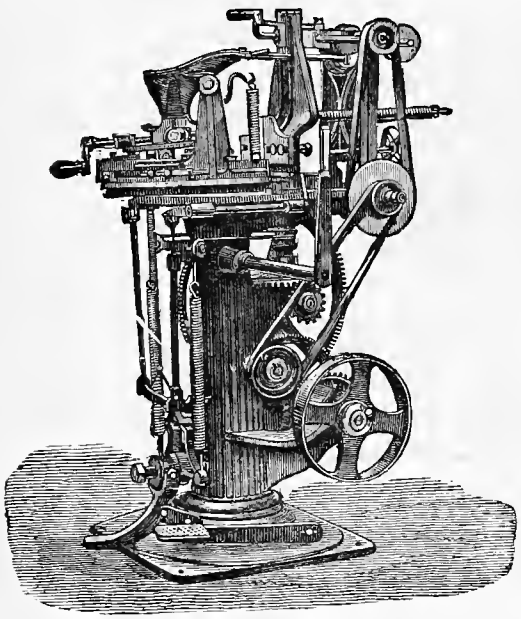

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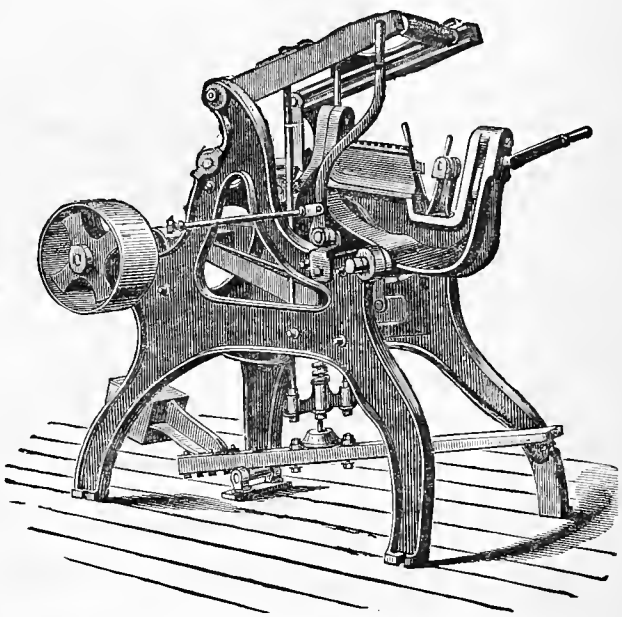

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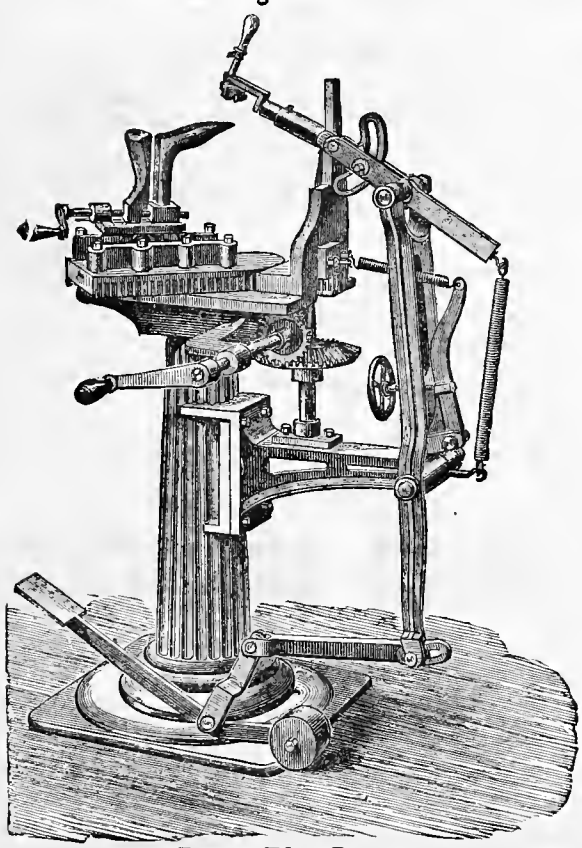

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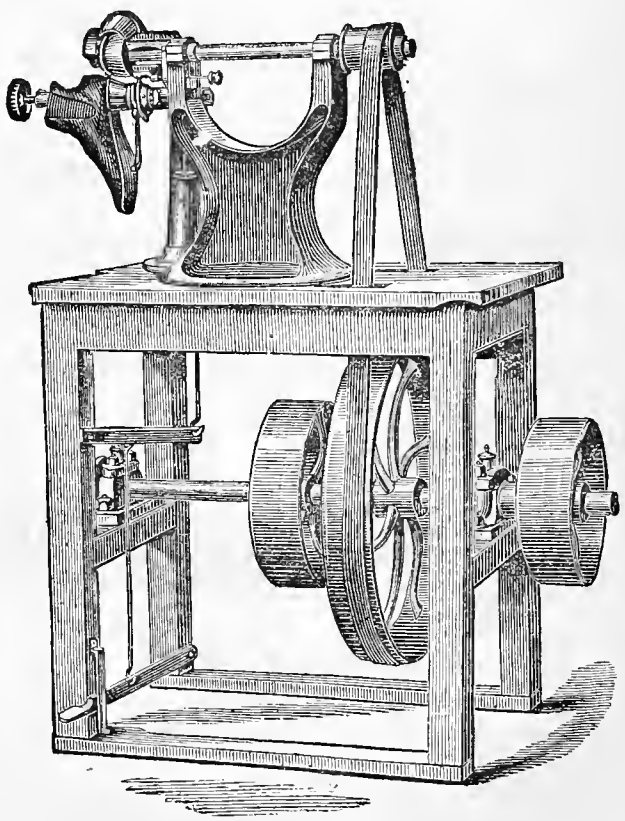

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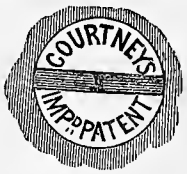

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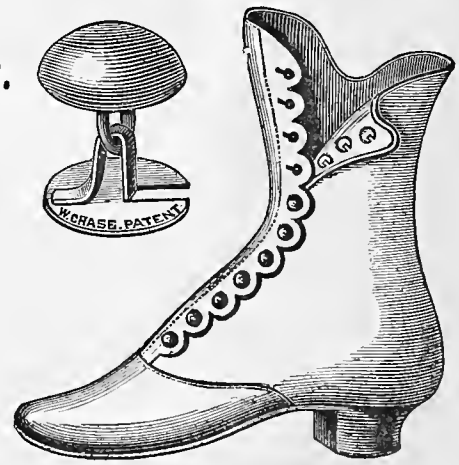

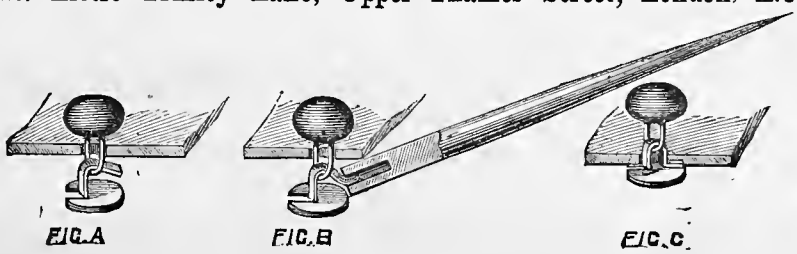

FIG. A FIG. B FIG. C.

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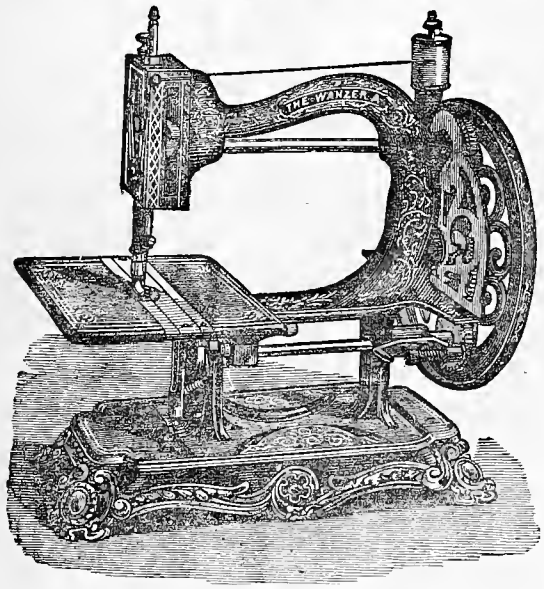

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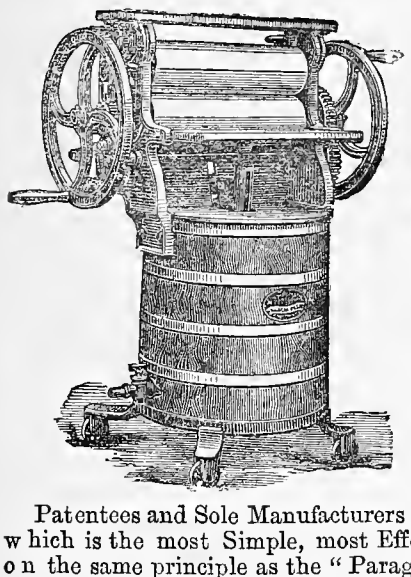
It combines all the known advantages of other Machines. Mounted on Ornamental Iron Base, Four Guineas complete.

The Wanzer Sewing Machine Company,
LIMITED,
Chief Office—4, GREAT PORTLAND ST., OXFORD CIRCUS, LONDON, W.

NEW HIGH-CLASS WASHING MACHINE.



Showing PLUNGER, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosing the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.

The **"PARAGON"** Washer, Wringer and Mangler (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath, Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize, Silver Medal, General Competition, and also an extra First Prize, Silver Medal, for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society's Medal; also gained Prizes and Honours at the Northumberland, Halifax, Todmorden, and Preston Agricultural Shows.

Mr. JORDAN EVANS, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'PARAGON' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in les than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,'** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

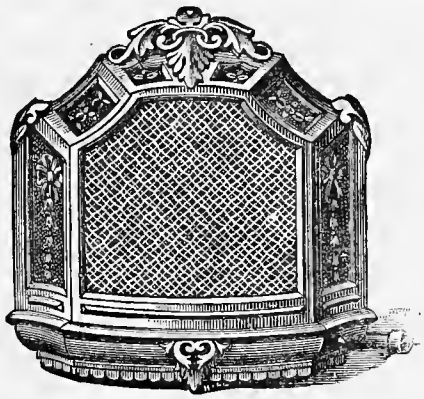
AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, ALPHA WORKS, OLDHAM, LANCASHIRE.

NOVELTIES IN DOMESTIC APPLIANCES.

MESSRS. WRIGHT & CO.S GAS STOVES.

One of the newest articles in gas stoves, made by Messrs. John Wright and Co., of Birmingham, is their "Gas-fire," an illustration of which we give below. Into an ornamental frame made of cast iron is inserted a centre of stout woven wirework, of double thickness, and backed by a fire-clay slab. In the centre are interlaced strips of platinum wire, while the burner is so arranged that the flames touching these wires cause the platinum and then the iron to become red hot almost



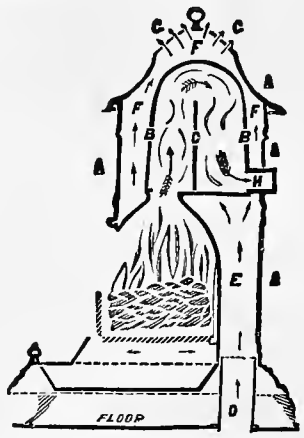
GAS FIRE.

directly the gas is lighted; this produces the effect of a brightly-burning fire. The great radiating power of iron is thereby used for transmitting the heat, while the backing of fire-clay serves only to intensify the heat on the wire. The "gas-fire" may be stood within the grate, or it can be hung upon the bars in front, thus allowing all injurious gases caused by combustion a free escape up the chimney.

We would call the attention of the trade to Messrs. Wright's patent "Hygienic" ventilating stove, for burning gas, coke,

THE HYGIENIC.

coal, slack, &c. We give two illustrations referring to the "Hygienic," and from the sectional one the working and construction of the stove will be easily understood. A is the exterior of the stove, B is a dome of iron above an open fire, divided by a plate C; the heat and product of combustion pass through the dome over the plate, and into the chimney through the outlet-pipe H. The interior E and F are air chambers or passages, which have a direct communication, in any convenient way, with the outer air through the continuing-pipe D. When the fire is lighted the interior of the stove and the dome is heated, and the air in passing abstracts the heat from the exposed surfaces, and is carried through the orifices G into the room; there it rises to the ceiling, and as heavier vitiated air is carried off through the fire, the warm air descends to replace it, and thus a perfect circulation is induced and the room is equally warmed in every part with pure, fresh atmospheric air. The utilisation of the heat generated by the combustion of the fuel is so complete that the bare hand may be laid on the outlet-pipe without burning, proving that a minimum of heat only is permitted to escape into the chimney. A blower or draught-pipe is provided, which, when applied,



SECTIONAL VIEW OF "THE HYGIENIC."

prevents air passing over the fire, and conducts it directly through it, increasing the rapidity of combustion, and bringing a room to any desired temperature in a very short time. A room 21 by 17 can, it is stated, be warmed to 60deg. in half an hour. A pan is placed under the grate into which the entire contents of the grate can be emptied by a lever for removal. When the heat of the room is excessive, and the fire is allowed to go out, cool, fresh air finds its way through the air-passages of the stove, the vitiated air passes out through the smoke-flue as usual, the temperature becomes reduced, and the circulation of the air of the room maintained without a fire in the stove. With the valves in the outlet and inlet pipes, and the various openings in the blower and fender of the stove, the speed of draught can be controlled completely. The "Hygienic" is specially adapted for warehouses, hospitals, schoolrooms, workrooms, and buildings where many people are assembled.

IMPROVED FRUIT AND VEGETABLE-PARER.

Messrs. Wheatley Brothers, of Sheffield, have just introduced into the trade an improved fruit and vegetable parer. Many knives of various devices have been at times placed

FRUIT AND VEGETABLE PARER.

before the trade as suitable for this purpose but as yet they have at the best been but clumsy contrivances, and little better than any ordinary table knife. The novelty, of which we give an illustration, has a cutting edge stamped out of the middle of the blade, which projects about 1-16th of an inch. By this

arrangement the paring of an even thickness can be taken off in the quickest and easiest manner. For removing the eyes or diseased parts of potatoes and apples, the end of the blade can be used, which is specially adapted for that purpose. The peeler is made in two qualities, the better being nickel-plated.

THE CANADIAN WASHER.

Messrs. E. Keworthy and Co., of the Alpha Works, Oldham, are manufacturing a very simple machine, known as the Canadian Washer. It works on the principle of the force-pump, forcing the water through the clothes to be washed, thereby not only loosening the dirt in the clothes, but thoroughly removing it from them. It is truly a labour-saving machine, and most efficient in its action on the clothes. The machine costs but a few shillings. We give an illustration of the same, and the following is the manner of using it:—Let the clothes be first put into cold water to steep as long as convenient; then take the washer and press it on the clothes, working it up and down in the maiden-tub, wash-

THE CANADIAN WASHER.

tub, or bowl, for about ten minutes (care to be taken to lift it about two inches out of the water each time, so as to catch the air each stroke), then wring the clothes out of this water, put them into hot water, adding boiled soap or a little washing powder to make a lather; then take the washer and work it as before five or ten minutes. Wring out the clothes, put them into fresh hot water, adding boiled soap, &c., as before; work the washer for five or ten minutes, then wring them out, put them through blue water, and they will be finished. No rubbing or brushing is required, except very dirty parts, and then not half as much as when put through other washing machines. In all cases use plenty of hot water. Steadily and firmly pressing the washer up and down is much better than rapid motion; it is more effective.

NOVELTIES IN LAMPS.

Messrs. Hinks and Sons, of Birmingham, have just brought out several novelties in lamps, and the engraving we give below is one of their latest productions. Their newest invention is the "Automatic Lighter," which is very simple in construction, and enables the lamp to be lit without removing the globe. It can be fixed to any ordinary lamp by any inexperienced person, no solder being required for that purpose. We give an illustration of the same, and the following

"AUTOMATIC LIGHTER."

instructions for its use:—When trimming lamp, leave the wicks a little above the top of wick tubes. Use wax matches of good quality and with large heads. After taking off extinguisher, place a wax match in brass holder, and with thumb of right hand push it sharply up tube, as far as it will go; steady the lamp with left hand. This operation will ignite the head of match and light lamp. The instant lamp is lighted, press the brass lever, when holder and match will drop from lamp.

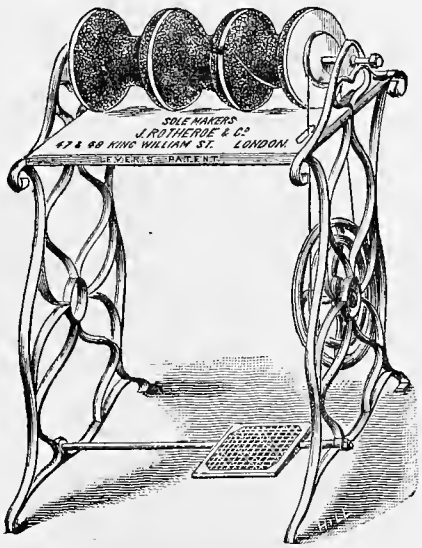
A NEW LAMP.

The oil-container should be filled up with oil before each time of burning. After lighting turn flames low for a minute, and then regulate to required height. Thin matches must be inserted at one end of the holder, and thick ones at the other. Should an irregular or imperfect match cause a misfire, release it, and force it up a second time. To ensure the well-burning and working of the lamp, the whole of the interior

parts should be thoroughly cleaned twice a year, by taking out the lever-pin; the extinguisher and perforated plate may be removed.

LEVERS' PATENT BOOT-CLEANING MACHINE.

A new machine for "japanning trotter cases"—to use the language of the Artful Dodger—has just been patented by Messrs. J. Rotheroe and Co., 47 and 48, King William-street, London. We give an illustration of the same. It will be seen by it that it consists of a concave set of brushes, which are set in motion by the movement of the treadle on the stand below. The boots or shoes are held on the table so as to come under the revolving surface of the brushes. The boots are cleaned



BOOT CLEANING MACHINE.

from all dirt by the first brush, and then passed on to the second, which is fitted with a blacking reservoir. This can be opened and the boot blacked without stopping the machine, and it is so arranged that no waste can possibly occur, while at the same time allowing the operator to put on as much as he may desire. The third brush is for polishing, and a few revolutions of the same produce a brilliant polish. The time occupied for cleaning one pair of boots is *one minute*, two boots being operated on at the same time. No matter what is the size of the boot, large and small can be cleaned with equal facility. No last or accessories are required with this machine, and owing to its simple construction there is little fear of its getting out of order.

IMPROVEMENTS IN GAS STOVES.

Messieurs André and Legrand, of Lyons, have through their agent, Mr. Chas. Henderson, of 6, Southampton-buildings, obtained Letters Patent for improvements in gas stoves. The features of novelty in the improved gas stove the subject of the present invention consists in adapting to the lower part of the stove an undulated or smooth cone in form of a parabola, permitting of the reflection of the light and heat given by the burning gas. In order to prevent any smell of the burning gas, to the upper part of the stove a disc of refractory brick is applied, absorbing the heat and smell, or at the side of the stove may also be adapted a pipe for the escape of the burnt gas.

AN IMPROVED IRONING MACHINE.

An improved ironing machine has been invented by Mr. William Stephen Clark and Robert Davenport, of Manchester. The invention consists in an improved arrangement and combination of machinery, whereby coats and other articles of clothing may be rapidly and efficiently pressed and ironed. They make use of a light frame, on the top of which they fix a headstock, carrying one shaft in fixed bearing and another shaft in swing bearings. On each of these shafts is a hollow drum or roller, the peripheries of which run in contact or almost in contact with each other; the adjustable roller fixed on the shaft in swing bearings is heated. The two shafts are geared together by spur wheels, and motion is communicated to them by a treadle or otherwise, and they employ a pinion, connected to a fly wheel, to reduce the speed. One end of the connecting rod works on a stud on the fly wheel and the other end on the crank pin. The roller on the shaft working in fixed bearings projects slightly above a table, and above this roller is the adjustable roller, which is raised or lowered to give the desired pressure by a hand wheel and screw fitted on the bracket or sleeve carrying the swing bearings. The article to be pressed or ironed is passed over the table between these two rollers; one end of the table swings on a quadrant, so that it may be kept level or lowered at any angle to allow the work to fall off. The pipe which conveys the gas to heat the adjustable roller is connected to the swing bearing by a bracket. Provisional protection has been taken out for this invention.

IMPROVED KNIFE-CLEANING MACHINE.

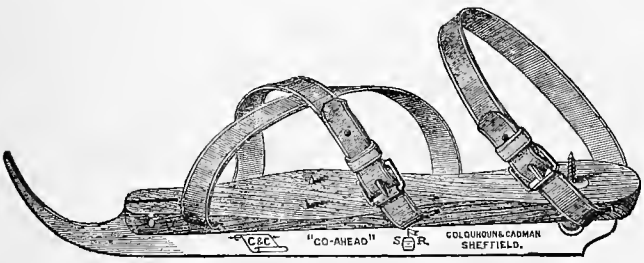
Mr. Henry Courteen, of Clapham-road, S.W., has obtained letters patent for "improvements in apparatus for cleaning and polishing knives." This is a simple and economical machine, so arranged whereby all the objections more or less attendant upon the use of two cylinders or rollers as cleaning surfaces are obviated, whilst facility is also afforded for effectually cleaning the hollow of the shoulder. According to this invention, he uses two rollers covered with any suitable rubbing or cleaning surface, and mounted in fixed or adjustable bearings. The surfaces of the rollers in this apparatus, unlike the rollers heretofore employed, are not required to be in actual contact with each other. These rollers may revolve in the same or in opposite directions, and be driven at a higher speed than heretofore by gearing or otherwise. One of the pair of rollers is by preference of considerably smaller diameter than the other, it being in fact small enough to enter and clean the hollow of the shoulder or bolster of the blade, whilst the other or main cleaning and polishing roller may be of any desired diameter. The small roller is conveniently disposed with regard to the axis of the larger or main roller as to constitute a fulcrum, whereby the pressure of the blade (introduced point-foremost between the two rollers, and moved to-and-fro longitudinally by hand or otherwise against either or both their surfaces) can be regulated to any desired amount by simply raising or depressing the handle of the knife. Any suitable cleaning or polishing powder may be supplied to the rollers in a self-acting or other manner either from above or below.

IMPROVED APPARATUS FOR WASHING LINEN.

Mr. John Hughes, of West Bromwich, Stafford, has invented several improvements in connection with machinery for washing linen. The apparatus consists of a hollow foot, circular in figure, and slightly conical. The extreme lower part of the foot is nearly cylindrical, portions of the cylindrical part being cut away at regular intervals, so that the foot is supported on the uncut away parts. The cut away parts may amount to three-fourths of the cylindrical part. In the centre of the foot is an opening surmounted by a vertical pipe, which at top is turned at right angles, or may be made to incline slightly downwards, or the top of the pipe may be provided with a series of openings arranged around it. In using the apparatus it is placed in the open boiler or copper in which the linen or other fabric or material is to be washed, together with the washing water and soap, or other cleansing material. The linen is then put into the boiler. On the heating of the boiler and its contents the apparatus determines a steady circulation of the heated water. The water in contact with the bottom of the boiler being highly heated, expands, and rising through the central tube, is discharged at its top. The heated water thus delivered on the top of the linen descends through the linen to the bottom of the boiler, passing through the cut away parts on the edge of the foot to the central and hottest part of the boiler. As the water again becomes highly heated it again presses up the vertical central pipe, and thus a continuous circulation of the heated water takes place, which results in the efficient washing of the linen or other fabric or article in the boiler. Mr. Hughes has taken out provisional protection for this invention.

NOVELTIES IN SKATES.

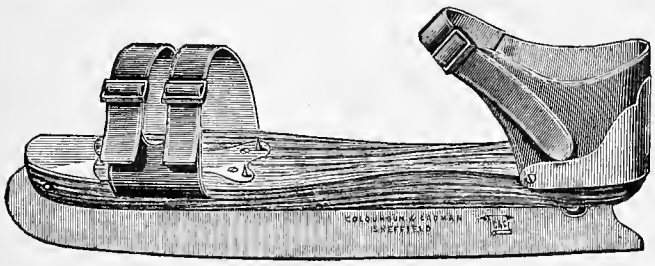
There is little fear of so healthy, so enjoyable an amusement as skating becoming discarded. Every winter brings with it more skaters, and it is not an amusement dependent on fashion for its popularity, but one enjoyed by the million—rich and poor—there is no doubt that each succeeding winter will see an increase of skaters. So soon as we are visited with a few days' frost, and long ere the ice is pronounced safe, many thousands of adventurous skaters are skating on ponds and lakes. Some, like Bob Sawyer and Mr. Benjamin Allen, perform spread eagles, inside and outside edges, and other mystic evolutions; some have to be content with the humbler plain-skating, while many, like Mr. Winkle, have an inclination to poise their heels in the air and their head on the ice. But no matter, whether they glide gracefully, waddle awkwardly, or fall down as quickly as they rise, they all thoroughly enjoy



THE STANDARD SKATE.

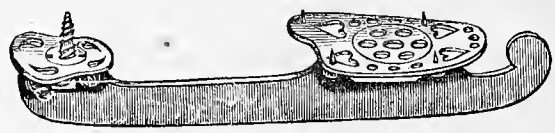
themselves and use to the utmost advantage every hour of skating weather.

Of course, the great drawback to the retail dealer in skates is the uncertainty of the weather. He may have purchased a large stock in the hopes of a good skating season, and the weather may turn out mild, and the skates will be on his hands till the next winter, locking up capital. This, however, is about the only thing against it. The public rarely purchase their skates till an hour before they want to use them, and at such times there is necessarily a "rush," and fancy prices are often obtained for them. The dealer in domestic appliances should certainly sell these articles, and, if bought with discretion, they will, in the winter, prove to be what is vulgarly termed, "a good spec." It is, of course, impossible to foretell what the coming winter will be like, but judging from the past few winters and grandmotherly prophecyings, which are



LADIES' SKATE.

very often true, we have reason to expect anything but a winter of mildness. Skates are sold in large quantities by many of the Hounsditch warehouses, but none are made in London. Sheffield is the centre of the skate trade, although they are manufactured in small quantities in other towns. The "Standard" skate, which is used by the "National Skating Association," is supposed to be perfection, so far as possible. The committee of this association found that, owing to the want of intercourse between experienced skaters and manufacturers, the wants of the former were not properly supplied. They then, in conference with leading manufacturers, decided on a suitable design for "running" skates, and agreed to allow the approved manufacturers the right to make the same and stamp them with their brands, provided the materials used were up to the necessary standard of excellence. Messrs. Colquhoun and Cadman, of Sheffield, have produced a skate which embodies all the essential points of the Association's specifications. In this skate, of which we give an engraving, the steel screw is driven through the toe of the skate, on to which the blade is hooked, instead of, as usual, being boxed into the wood, thus preventing the skate from splitting or the blade from getting loose. Steel screws are driven from underneath through the body of the wood, and thus replace the steel spikes usually embedded in the sole of the skate, which so often breaks off. The skate is of superior finish and of excellent workmanship. When the committee of the association have decided as to the plan of affixing brands, this skate will duly bear the stamp of the National Skating Association. We also present our readers with engravings of Messrs. Coloquhoun



"SWIFTSURE."

and Cadman's "London Club Skate," especially adapted for figure skating, and also their ladies' skate, with plated heel-cap, especially made for affording strength to those of the fair sex who may be troubled with weak ankles.

One of the latest novelties in skates, is made by Mr. W. E. Hart, Bricklin Foundry, Wolverhampton. It is called the "Swifture," and we present an engraving of the same. As will be seen, it is a skeleton metal skate, its blades are of steel or of a combination of iron and steel, which the manufacturer claims to be the most enduring of all metals. The treadles of the skates are made of brass or gun metal; it is attached to the foot by straps and a screw in the heel. The "Swifture"

LONDON CLUB SKATE.

is made at various prices to suit the pocket of the purchaser, and can be had nickel-plated if desired.

American skates are imported very largely into England, and for information of our readers we may mention the firm of H. B. Wyatt and Co., of City Buildings, Liverpool, and 2, Star-court, Bread-street, London, as being engaged in that trade. They import the well-known "Acme" Skate, and also Coomb's Lever, the latter being much used in America. Other manufacturere of skates are Messrs. Rocker and Co., 74, Eyre-street, Sheffield, and Mr. F. Harris, Ontario Works, South-street, Moor, Sheffield, both houses making skates to suit the million. Other names and addresses we shall be happy to give in this journal to any readers desirous of knowing the same.

A NEW BUTTON-HOLE ATTACHMENT.

Mr. John K. Harris, of Springfield, Ohio, has recently patented a novel and comparatively simple construction of button-hole worker, applicable to the ordinary sewing machines, which for neat and substantial work, bids fair to greatly extend the use of this class of devices. In its general organization it comprises a cloth clamp, that holds the cloth and oscillates it under the needle at right angles to the line of feed, first on one side of the centre line, and then (after shifting its position at the end) returns on the other side of the centre line, which centre line is then opened or cut with a knife to disconnect the two lines of stitching and form the button-hole. The cloth clamp is oscillated by a connection with the needle-bar of the machine. The prominent feature of the invention is to be found in causing the lateral oscillation of the cloth clamp to be converted directly into a secondary intermittent progressive feed longitudinally with the button-hole, by the direct impingement of the cloth clamp against an adjustable stop or resistance that causes the cloth clamp to react and move longitudinally, the length of feed and depth of stitch having always an automatic correlation to each other. This, in connection with the other features of the device, gives a

nicety of adjustment and accuracy of work that must be seen to be fully appreciated. Mr. Harris has also patented other constructions aiming at analogous results.

IMPROVEMENTS IN CARPET-SWEEPING MACHINES.

Mr. John Henry Johnson, 47, Lincoln's-Inn-fields, has taken out letters patent for an improvement in carpet-cleaning machines on behalf of Mr. Wm. McArthur, of Philadelphia. The main objects of this machine are improvements to increase the capacity of the machine to insure the carrying off of the dust as it is beaten from the carpet, and to destroy any insects or vermin with which the carpet may be infested. In carrying out this invention the machine generally consists of opposite side frames, between which is a box or casing extending from one side frame to the other, and enclosing a beating chamber, in which are bearings for a beater shaft; the latter projects from one side of the machine, and has a pulley for the reception of a belt from a pulley on the main driving shaft. The beater shaft is ribbed, and each rib carries a number of beater straps, which are preferably made of a material similar to that of which rubber belting is made, the number of ribs on the shaft, and the number and arrangement of straps on each rib being varied as circumstances may suggest. Within the chamber, and extending across the lower portion of the same, is an elastic bed composed, for example, of wire, one portion of this elastic bed consisting of longitudinal wires only, while the other portion is composed of both longitudinal and transverse wires. On the last mentioned portion of the bed is arranged a coil of pipes, through which live steam is caused to circulate, and beneath the first mentioned portion of the bed, and in proximity to the inner side of the casing, is a coil of pipes also constructed for permitting the circulation of steam. In one end of the chamber is a rotary fan, which is carried by a sleeve on the beater shaft, the sleeve having a pulley which receives a belt from a pulley on a counter shaft; a belt from another pulley on this shaft passes round a pulley on another shaft adapted to bearings in the frames, and having arms with brushes, the rotary brush being contained in a chamber provided for the purpose. The carpet passes over an inclined table or bed, and thence through the beating chamber, bein supported by one portion of the elastic bed, and by the coil c steam pipes resting on the other portion of the bed, the carpe after issuing from the chamber, passing over the brush chambe and its brush, whence it passes between feed rolls, which ar provided with rings of rubber or equivalent elastic materia whereby the proper feeding of the carpet is effected withou pressing down the piled surface of the same. The end of th beater chamber opposite that in which the fan is arrang communicates with a chimney, with which also may commun cate the brush chamber. As the carpet first enters the machin and passes over one portion of the elastic bed, it is subjecte to the action of the heat radiated from the pipes beneath i and in order to obtain the full effect of this radiation, th inventor provides the casing behind the pipes with a lining c bright metal or a similar reflecting surface. The carpet the passes over the other steam pipes, and during its passage, an while directly in contact with and subjected to the full force c the heat from the pipes it is beaten by the straps of the beate shaft. The heat to which the carpet is subjected while bein beaten insures the killing of moths or other insects or vermi with which the carpet may be infested. The dust and di beaten from the carpet are carried to and through the chimne by the blast of air which is caused to pass through the beat chamber by the action of the fan, no dust escaping into th room in which the machine is situated. The fan being carrie by a sleeve independent of the beater-shaft, can be driven a any desired speed in respect to the shaft, thus overcoming a objection to machines in which the fan is secured to the beate shaft, in which case the beater-shaft has sometimes to l driven at so low a speed as to prevent the proper action of th fan. As the carpet leaves the beating chamber it is subjecte to the action of the brush, whereby the loose dust on the face of the carpet is removed. The carpet may be caused to pass through the machine at as rapid a rate as is desired, the speed depending upon the amount of beating to which it is desired to subject the carpet.

FIRE IN THE WHEELER AND WILSON SEWING MACHINE FACTORY, BRIDGEPORT, CONN.

A fire broke out in the japanning department of the above factory on the 1st ult. The flames spread rapidly, and destroyed that department of the building. There has been great loss to the building, stock, and machinery. The fire is supposed to have been occasioned by the carelessness of an operator looking for a leakage of turpentine with a lighted lamp in his hand.

THE STORAGE OF ELECTRICITY.

The following is the description of the apparatus now successfully used for the storage of electricity. The inventor, M. Carriere, terms his storage apparatus a thermophere, and describes it as a box filled with layers of thin metal, which contain the heat, and which are covered and separated from each other so as to retain it until needed. The sheets of metal are composed of some composite which has a remarkable affinity for heat, without melting. This composition has not been made public, but it is supposed to be a fusion of iridium and platinum. For covering and separating the metal receivers, fine silk, saturated with a preparation of liquid oxygen is used, and this is said to entirely close all possible escape of any degree of heat. The receivers are then packed in a box, as many and as close as desired, and the box set on one side, ready for use. To secure the original supply of heat, M. Carriere makes use of the natural heat force of the sun, concentrating it by means of polished mirrors to a focus on the plate receivers, placed upon saturated silk protectors, which prevent any of the heat from escaping below during the receiving process. As soon as the desired degree of heat has been attained, a counter saturated cover is folded over the plate and the latter placed in the box receptacle. It will be seen that the process is easy and inexpensive, while, if the inventor can do all he claims, and his story is partially borne out by the testimony of others, it is evident that a new source of power has been developed, which is one of equal value with that of electricity, and which possesses the great advantage of being practically inexhaustible.

THE COVENTRY BICYCLE AND TRICYCLE TRADE.

(From Our Own Correspondent.)

It has often puzzled me why bicycles, and, indeed, tricycles, should have chosen as the seat of their manufacture the city of Godiva and the three spires. In the legendry and cleanly city of Coventry are manufactured, it is true, many articles: watches, ribbons, and elastic web hail from that city, but one cannot see much affinity between either of these articles and the "iron steed" which in many thousands are now made there. One would have thought that Birmingham, with its plant and skilled labour, instead of being of minor importance so far as the bicycle trade is concerned, would have been at the top of the tree. At the present moment the bicycle trade of Coventry is gradually slackening off, and many large manufacturers are dismissing the hands they can best dispense with. This is not an unusual occurrence at this time of the year, nor are there so many out of work now as there were this time last year. The demand for both tricycles and bicycles of Coventry manufacture has been extremely good throughout the spring and summer seasons, and to meet the increased demand many manufacturers have secured additional plant and premises. The tricycle trade is now better than the bicycle, and shows every sign, judging from its past steady trade, of enduring throughout the winter in much the same state as it now is. The orders in hand are chiefly for the home trade; the export is not so busy. There is nothing to report as to prices, no change being made except, I hear, one firm are now most unnecessarily "cutting." I earnestly trust they may think better of the course they are taking, for, if followed by other manufacturers, it will ruin what is now a sound, healthy trade. Messrs. Bayliss, Timms and Co. are, I believe, working only short time; their bicycle trade is quiet, but for tricycles they have good orders. Messrs. Starley Bros., Hillman, Herbert and Cooper, and many other firms are now busy making stock for next season, and in tricycles many minor improvements are being made. A large factory has just been taken in this city for the manufacture of Harrington's enamel. This article is much in favour with bicycle and tricycle manufacturers, and will next year be most extensively used.

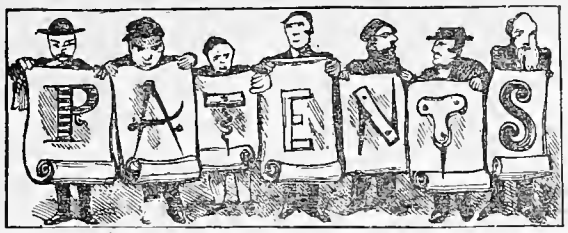
done no good. Mr. Stracey, of the Early Closing Association, held that the proposal for legislation was an absurdity. He reproached the shop assistants for not contributing to the Early Closing Association, which could have helped them in this matter. This was not at all relished by the audience, and there was a general fight, the meeting breaking up in the greatest disorder.

DOMESTIC LABOUR-SAVING MACHINERY AT THE BREWERS' EXHIBITION.

(By our own Reporter.)

There is no class of people to whom all kinds of labour-saving appliances are so welcome as they are to hotel keepers and publicans. I was therefore somewhat surprised that a greater quantity of such exhibits were not to be seen in the Agricultural Hall, where the exhibition was held a few days ago. A large space for the display of gas cooking stoves was well filled by Messrs. H. and C. Davis, 200, Camberwell-road, S.E. A complete grilling stove, with hot closet under and gas hot plate on top suitable for cooking, in sight of the customer, particularly attracted our attention. Messrs. Michel and Co., of 471, Oxford-street, W., showed several gas stoves for warming publichouse bars and for supplying hot water for use in the same, for keeping hot such articles as sausages and potatoes. These were nickel-plated and of ornamental design. Several novelties in gas cooking apparatus were shown by Messrs. Thomas Hogben and Co., 3, City-road, E.C. A cheap and effective roaster, called the "Adelaide," was shown amongst their exhibits, and we also noticed a new muller, termed the "Combination," with compartments for tea, coffee, milk, ale, stout, and water, and which was also fitted with warmers for the modest "sausages and mashed"—about the only food that most publichouses can be relied on to furnish. How is it that in England there is such facility for obtaining drink and so little for obtaining food? The Sunlight Stove and Utensils Co., 19, Blackfriars-street, Manchester, exhibited the "Sunlight" Cooking Stove and other warming and cooking stoves. For warming bedrooms or passages by gas they showed a novelty made of tin, it is in the form of an eccentric cowl, with a burner fitted under. A good collection of knife-cleaning machinery and sausage machines was shown by the Davis "Excelsior" Knife-cleaning Machine Co., 62, Leadenhall-street, E.C., and Mr. Harry Hunt, of Stoke Newington Green, N., showed several specimens of the Antichracite coal-burning stoves. Filters were represented by the exhibits of the Silicated Carbon Filter Co., of Battersea, and Mr. P. A. Maignen, 23, Tower-street, E.C. The table filters of the former contain an improvement for cleaning the carbon and for using as a pocket filter. In addition to the filters specially adapted for brewers, Mr. P. A. Maignen exhibited several novelties for home and for tourists. Several improved check tills were to be seen in the Hall, one exhibited by Mr. Wenn, fitted with electric wires, attracted much attention. Mr. Jas. Sinclair, 104, Leadenhall-street, exhibited Boyce's Till, which not only shows the coin taken from the customer, but registers the same as well, and by a very ingenious arrangement the takings of different hours can be put into different draws, clearing once a day being all that is necessary. For moulding the crust of those mysterious, doubtful delicacies, known as pork pies, Mr. John Bate showed a very useful machine, while Messrs. F. and C. Hancock, of Dudley, exhibited a large collection of machines for taking the salt out of butter, kneading dough, and beating eggs. Messrs. B. Hembry and Co., 6, Newgate-street, E.C., exhibited some new indiarubber stair clips, which they state come cheaper than brass, are less noisy, and more pleasant to walk on; and last, but not least, amongst the exhibits we mention the Brush Electric Light Company, who very brilliantly illumine their own and the surrounding stalls.

THE BOSTON EXHIBITION.—The Committee appointed to consider the feasibility of holding a world's fair have decided in favour of the project, provided that a sum of 5,000,000 dols. can be raised.



The following list has been compiled expressly for the "Sewing Machine Gazette," by G. F. REDFERN, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 3,876. W. R. Lake—a communication from J. B. Anthony, of Providence, Rhode Island, United States, for improvements in sewing machines, chiefly designed for the manufacture of boots and shoes. Dated September, 7, 1881.

„ 3,888. H. Haes, of Wednesbury, Staffordshire, for improvements in and applicable to bicycles. Dated September 8, 1881.

„ 3,916. R. H. Froude, of Courtland-terrace, Kensington, London, for improvements in bicycles. Dated September 9, 1881.

„ 3,921. W. R. Lake—a communication from J. Gutmann, of Berlin, Germany, Sewing Machine Manufacturer, for improvements in button-hole stitching apparatus, designed to serve as an attachment for sewing machines. Dated September 9, 1881.

„ 3,938. A. Shaw, of Lockwood, near Huddersfield, Yorkshire, for an improved construction of frame for washing machines, wringing machines, and sewing machines. Dated September 12, 1881.

„ 3,947. G. M. F. Molesworth, of Northdown Hall, Biddeford, Devonshire, for improvements in and relating to velocipedes, partly applicable to other purposes. Dated September 12, 1881.

„ 3,970. G. Asher, of Birmingham, Designer and Pattern Maker, for an improvement relating to perambulators and similar vehicles, applicable also to other useful purposes. Dated September 14, 1881.

„ 3,977. A. J. Boult—a communication from J. Jarlan, of Toulouse, France, for improvements in sewing machines. Dated September 15, 1881.

„ 4,023. R. H. Brandon—a communication from the Morley Sewing Machine Company, C. A. Sinclair, Treasurer, of Holyoke, Massachusetts, United States, for improvements in the method of stitching lapped and butted seams, and of stitching shank buttons on to fabrics. Dated September 19, 1881.

„ 4,032. C. A. Snow—a communication from F. G. Altman and F. Pommer, both of Edina, Missouri, United States, for improvements in sewing machines. Dated September 19, 1881.

„ 4,051. E. R. Settle, of Coventry, for improvements in driving mechanism for velocipedes. Dated September 20, 1881.

„ 4,063. A. M. Clark—a communication from M. T. Foote, of Boston, Massachusetts, United States, for an improvement in hair-pins. Dated September 21, 1881.

„ 4,073. A. W. L. Reddie—a communication from L. G. Blood, of New York, United States, for improvements in show-cases for needles and other merchandise. Dated September 21, 1881.

„ 4,091. J. Adams, of Camberwell, London, Engineer, for improvement in tricycles and in the mode of steering or guiding the same. Dated September 22, 1881.

„ 4,106. J. E. Leeson, of Oldham, Lancashire, Clerk, for improvements in lamps for bicycles and other velocipedes and in apparatus connected therewith. Dated September 23, 1881.

„ 4,121. T. E. Heath, jr., of Penarth, Glamorganshire, South Wales, for improved means of and apparatus for driving bicycles and other velocipedes. Dated September 24, 1881.

No. 4,122. L. A. Groth—a communication from F. Praunegger, of Gratz, Austria, for a new or improved pocket combination knife, fork, and spoon. Dated September 24, 1881.

„ 4,143. J. Renals—a communication from J. Steiger, of Herisau, Switzerland, for improvements in the production of embroidery. Dated September 26, 1881.

„ 4,150. F. McIlvenna, of Liverpool and Manchester, Manufacturer of Shop Fittings, for improvements in and relating to apparatus for displaying cloth and other articles in shop windows and other places. Dated September 27, 1881.

„ 4,167. J. F. Walters, of Queen's-road, Bayswater, London, for improvements in bicycle springs and saddle combined. Dated September 27, 1881.

„ 4,206. T. W. Walker, of Hanley, for improvements in apparatus to be used in the washing of clothes and fabrics. Dated September 29, 1881.

„ 4,215. W. H. McNary, of Brooklyn, United States, for improvements in knitting machinery and in the production thereby of knitted fabrics of a novel character. Dated September 29, 1881.

„ 4,264. G. Schultz, Clerk, and W. Harrison, Machinist, both of Manchester, for improvements in tricycles, parts of which improvements are applicable to carriages and vehicles. Dated October 1, 1881.

„ 4,269. F. Cutlan, of Cardiff, for improvements in sewing machines. Dated October 1, 1881.

„ 4,302. J. E. Surridge, of Windlesham, Surrey, for improvements in bicycles. Dated October 4, 1881.

„ 4,317. T. Warwick, of Aston, near Birmingham, Manufacturer, for improvements in bicycles, tricycles, and other velocipedes. Dated October 4, 1881.

„ 4,319. J. A. Lamplugh, of Birmingham, Manufacturer, for improvements in bicycles. Dated October 4, 1881.

„ 4,330. W. R. Lake—a communication from S. Peberdy, of Philadelphia, Pennsylvania, United States, for improvements in the manufacture of knitting machine needles. Dated October 5, 1881.

„ 4,351. H. Simon—a communication from F. B. Köhler, of Chemnitz, Saxony, for improvements in sewing machines. Dated October 6, 1881.

„ 4,363. H. J. Haddan—a communication from the Universal Knitting Machine Company of Ontario, Limited, of Toronto, Ontario, Canada, for improvements in knitting machines. Dated October 7, 1881.

„ 4,364. A. Phillips, of Birmingham, Velocipede Manufacturer, for improvements in velocipedes. Dated October 7, 1881.

„ 4,382. C. H. Brassington, of Manchester, Manager of Perambulator Works, for improvements in perambulators. Dated October 8, 1881.

„ 4,385. J. S. Edge, junior, of Birmingham, Mechanical Engineer, for improvements in bicycles, tricycles, and other velocipedes. Dated October 8, 1881.

„ 4,392. S. Fingland, of Hawick, Roxburgh, North Britain, Hosiery Manufacturer, for improvements in knitting machinery. Dated October 10, 1881.

Letters Patent have been issued for the following:—

No. 533. W. Mickelwright, of Shepherd's-bush, and A. G. Gladwyn, of Hammersmith, both in London, for improvements in or applicable to bicycles, tricycles, and other similar machines. Dated Feb. 8, 1881.

„ 1,035. H. Courteen, of Clapham-road, London, Engineer, for improvements in apparatus for cleaning and polishing knives. Dated March 10, 1881.

„ 1,164. B. Hunt—a communication from J. Bond, junior, and C. M. Swain, both of Philadelphia, Pennsylvania, United States, for certain improvements in lock-stitch sewing machines. Dated March 17, 1881.

„ 1,318. C. T. Bastand, of Albany-road, Camberwell, London, for improvements in sewing machines. Dated March 24, 1881.

„ 1,402. J. Kettle, of Manor House, Stepney-green, London, Modeller, for improvements in stands or supports for supporting costumes or other articles. Dated March 30, 1881.

„ 1,431. W. Morgan Brown—a communication from H. Schuerer, of Werdova, Saxony, for improve

ments in knitting machinery. Dated April 1, 1881.

No. 1,490. W. R. Lake—a communication from Messieurs Corral, Tejado et Corbera, of Madrid, Spain, for the manufacture of an improved fibrous material from a vegetable production. Dated April 5, 1881.

„ 1,498. R. Kerr, of Paisley, Renfrew, North Britain, Mannfacturer, for improvements in cabinets or cases for containing assortments of thread, spools, or bobbins, or similar articles. Dated April 6, 1881.

„ 1,615. J. G. Wilson—a communication from A. M. Leslie, of Chicago, Illinois, Publisher, and the Teller Manufacturing Company, Manufacturers, of Cleveland, Ohio, both in the United States, for improvements in sewing machines. Dated April 13, 1881.

„ 1,617. F. Keyrich and F. Quenstedt—a communication from the Actiengesellschaft, vorm: Frister und Rossmann, of Berlin, Germany, for improvements in or connected with sewing machines. Dated April 13, 1381.

„ 1,657 W. Thacker, of Nottingham, for improvements in the manufacture of fabrics in knitting and other machinery employed in the manufacture of knitted or looped fabrics, and in machinery or apparatus employed therein. Dated April 14, 1881.

„ 1,663. L. Silverman, of Westminster, London, Draughteman, and J. R. Cuming, of Ilford, Essex, Foreman Tailor, for improvements in sewing machines. Dated April 14, 1881.

„ 1,678. J. H. Riley, of Bury, Lancashire, for improvements in machinery or apparatus for removing vegetable fibre from woollen fabrics. Dated April 16, 1881.

„ 1,799. G. Burt, of Birmingham, Manufacturer, for improvements in lamps for bicycles and other velocipedes. Dated April 26, 1881.

„ 1,864. J. E. Hatch, of Camberwell, London, for an improved velocipede or monocycle. Dated April 29, 1881.

„ 2,632. N. Fraser, of Arbroath, Forfarshire, North Britain, Manufacturer, for improvements in plaiting fibrous or other flexible materials, such as strands, threads, yarns, slivers, bands, or wires, and in machinery therefor. Dated June 16, 1881.

„ 3,263. H. J. Haddan—a communication from F. Bittner, of Remscheid, Germany, for improvements in skate attachments. Dated July 26, 1881.

„ 3,269. J. Bradley, of Lowell, Massachusetts, United States, Knitter, for improvements in circular knitting machines. Dated July 26, 1881.

„ 3,295. T. Lawson, of Leeds, Machine Maker, for improvements in machinery for spinning yarns from flax, hemp, and other fibres. Dated July 27, 1881.

PATENTS WHICH HAVE BECOME VOID :—

No. 3,393. W. Fairweather, of Manchester, Engineer, for improvements in sewing machines for edging, fringing, and producing ornamental stitches. Dated August 28, 1878.

„ 3,510. J. H. Johnson—a communication from W. Friedberger, of Philadelphia, United States, for improvements in machines for sewing straw braid and similar articles, which improvements are also partly applicable to mechanical motions for other purposes. Dated September 4, 1878.

„ 3,512. J. Harrington, of Ryde, Isle of Wight, for improvements in alarm apparatus for bicycles and other velocipedes. Dated September 5, 1878.

„ 3,749. W. H. J. Grout, of Watson-street, Stoke Newington, London, Engineer and Bicycle Manufacturer, for improvements in bicycles, tricycles, and other velocipedes, and in receptacles for the same. Dated September 21, 1878.

„ 3,818. A. L. Fyfe, of Aldersgate-street, London, for improvements in ladies' dress-holders or suspenders. Dated September 27, 1878.

„ 3,827. B. A. Joule, of Sale, Cheshire, for improvements in the construction of tricycles. Dated September 28, 1878.

„ 3,858. R. Harrington, of Wolverhampton, Bicycle Manufacturer, for improvements in velocipedes, partly applicable also to other purposes. Dated October 1, 1878.

„ 3,059. R. Belshaw, of Nottingham, for improvements in machinery and apparatus applicable to circular machines for making elastic looped fabrics. Dated September 7, 1874.

„ 3,183. L. L. Atwood—a communication from H. H. Townsend, of Boston, Massachusetts, United States, for an improved button-hole stitching apparatus for sewing machines. Dated September 17, 1874.

„ 3,253. J. Mountain, of Birmingham, Machinist, for certain improvements in sewing machines. Dated September 22, 1874.

„ 3,262. W. F. Thomas, of Cheapside, London, for improvements in sewing machines. Dated September 24, 1874.

Specifications Published During the Month.

Postage 1d. each extra.

			s.	d.
No.	399.	E. Buckley, apparatus for steaming textile fabrics	0	2
„	428.	H. M. Knight, stocking and sock suspenders ...	0	6
„	450.	A. M. Clark, sewing machines	2	4
„	465.	A. M. Clark, apparatus for bucking, washing, and bleaching linen, &c.	0	6
„	512.	J. White and G. Davies, bicycles, tricycles, &c.	0	6
„	531.	W. S. Clark and R. Davenport, clothiers' pressing and ironing machine...	0	2
„	570.	J. G. Dowd, facilitating the cutting out of ladies' and children's dresses, &c.	0	2
„	589.	N. Tupholme, mangling and wringing machines	0	6
„	594.	H. G. H. Berkeley, bicycles, &c.	0	2
„	604.	J. H. Gosling, bicycles, tricycles, &c.	0	2
„	619.	R. Macaulay and J. Ballintine, gas heated smoothing irons	0	6
„	638.	J. H. Palmer, bicycles, &c....	0	6
„	668.	H. J. Swindley, bicycles, &c.	0	6
„	671.	A. Kirby, velocipedes, &c.	0	6
„	677.	A. Anderson and G. Browning, sewing machines	0	8
„	679.	J. Harrington, tricycles and bicycles	0	6
„	703.	J. H. Smith, knitting machines	0	2
„	729.	G. G. M. Vernum, bicycles, tricycles, &c. ...	0	6
„	753.	G. W. Ash, bicycles...	0	6
„	754.	G. Singer and A. W. Metcalfe, bicycles, &c. ...	0	6
„	756.	J. Booth, manufacture of knitted or looped fabrics	0	6
„	763.	J. and J. C. Buckley, apparatus for pressing, smoothing, and finishing garments, &c. ...	0	6
„	848.	H. H. Lake, sewing machinery, &c.	0	8
„	860.	L. Appleton, machinery for cleaning knives ...	0	6
„	878.	W. and H. Smith and S. Steel, machinery for combing wool, &c.	0	2
„	891.	T. Humber, T. R. Marriott, and F. Cooper, wheels for bicycles, &c.	0	6
„	911.	J. and C. E. Challis, velocipedes, &c.	0	6
„	920.	J. F. M. Pollock, pressing and ironing machines	0	2
„	929.	J. Hopwood, velocipedes	0	6

New Method of Inlaying Wood.—A new method of inlaying wood has been contrived by a furniture manufacturing house in England. The process is as follows: A veneer of the same wood as that which the design to be inlaid consists—say sycamore—is glued entirely over the surface of any hard wood, such as American walnut, and allowed to dry thoroughly. The design is then cut out of a zinc plate about one-twentieth of an inch in thickness, and placed upon the veneer. The whole is now subjected to the action of steam, and made to travel between to powerful cast-iron rollers of eight inches in diameter by two feet long—two above and two below—which may be brought within any distance of each other by screws. The enormous pressure to which the zinc plate is subjected forces it completely into the veneer, and the veneer into the solid wood beneath it, while the zinc curls up out of the matrix it has thus formed and comes away easily. All that now remains to be done is to plane down the veneer left untouched by the zinc until a thin shaving is taken off the portion forced into the walnut, when, the surface being perfectly smooth the operation will be completed. It might be supposed that the result of this forcible compression of the two woods would leave a ragged edge, but this is not the case, the joint being so singularly perfect as to be unappreciable to the touch; indeed, the inlaid wood fits more accurately than by the process of fitting, matching, and filling up with glue, as is practised in the ordinary mode of inlaying.

Dissolutions of Partnerships.

Sellers, J., and Sons, Arundel-street, Sheffield, and New York, cutlery manufacturers. May 15, 1880. Debts by John Sellers.

Bly and Vikress, Great Yarmouth, manufacturing ironmongers. October 4.

Richards and Evans, Woodfield-street, Morriston, furnishing and general ironmongers. October 8. Debts by Daniel Evans.

Sandeman, G., and Co., High-street, Borough, ironmonger. September 30.

Liquidations by Arrangement.

Davey, Thomas, Wigan, late Pemberton, near Wigan, ironmonger, &c. September 29.

Butcher, Alfred Robert, Wellingborough, ironmonger, &c. October 8.

Jones, Thomas, Cawdor's-terrace, Newcastle Emlyn, Carmarthenshire, ironmonger. October 11.

Hargreaves, Allen, Victoria-lane and Dock-street, late Shambles-lane, Huddersfield, dealer in pictures, bicycles, and machinery. October 21.

James, William Henry, Gordon-terrace, North Woolwich-road, late Barnwood-road, both Silvertown, Essex, ironmonger. October 13.

Parr, Edwin, Brentwood, Essex, ironmonger. October 19.

Stephens, Joseph, trading as Samuel Stephens and Son, Bradford-street and Mountrath-street, Walsall, and Queen-street, Glasgow, ironmonger and manufacturer of fancy leather goods. October 19.

County Court Judgments.

Davis, Joseph, Lower Addiscombe-road, Croydon, ironmonger; £13 11s. 3d. August 19.

Harvie, W., 110, Kirkdale-road, Liverpool, sewing machine dealer; £10 8s. 6d. September 1.

Hayhoe, William, 90, Snow-fields, Bermondsey, sewing machine dealer; £12 18s. 7d. September 3.

Jordan, J. H., Church-street, St. Helen's, Lancashire, ironmonger; £16 15s. 2d. September 1.

Luck, A. B., High-pavement, Lewisham, ironmonger; £13 7s. August 26.

Weston, C. F., Godalming, Surrey, ironmonger; £15 16s. 4d; August 29.

Lloyd, Edwin, Lincoln, ironmonger; £15 19s. 1d. August 24.

Raison, Hy. Wm., Rochester-row, Westminster, ironmonger; £11 5s. 6d. September 5.

Barratt, W., Barrow, Lancashire, ironmonger; £11 14s. 6d. September 15.

Jordan, J. H., St. Helen's Lancashire, ironmonger; £17 15s. 4d. September 19.

Lime, Alexander, Great George-street, Liverpool, ironmonger; £17 5s. 2d. September 16.

Palmer, Thomas, Victoria Works, Victoria-road, Aston, Warwickshire, bicycle manufacturer;

Palmer, John, Victoria Works, Victoria-road, Aston, Warwickshire, bicycle manufacturer; £12 9s. 4d. September 16.

Shapley, J., 27, North-street, Exeter, ironmonger; £10 2s. 7d. September 15.

Hetherington, John, Newcastle, ironmonger, £16 4s. 5d. September 20.

Hodgson, G. F., Titney, near Grimsby, machinist; £10 17s. 10d. September 29.

Luck, Alexander, Batters, near Post Office, Lewisham, ironmonger; £13 1s. 3d. September 15.

Smith, John, 36, Clifton-road, North Cardiff, ironmonger; £11 14s. 4d. September 15.

Bills of Sale.

Barker, Thomas, 21, Helder-road, South Croydon, sewing machine agent; £7 10s., &c. In favour of Moses Phillips. Filed September 28.

Lunnon, John, West-street, Great Marlow, Bucks, ironmonger; £250. In favour of Wm. Almend. Filed September 26.

Powell, Richard Ebenezer, jun., 25, North-end, Croydon, ironmonger; £1,133 9s. 6d. In favour of Richard E. Powell, sen. Filed September 28.

Roberts, Moses Allen, 70, Clarence-road, Clapton, sewing machine manufacturer; £26. In favour of John R. Rowland. Filed September 29.

Treliving, Samuel John, 9, Ford's-market, Boyd's-road, Canning Town, West Ham, Essex, ironmonger, &c.; £40, &c. In favour of Union Deposit Bank. Filed September 30.

Dixon, Arthur, 118, Spotland-road, Rochdale, Lancashire, ironmonger; £36, &c. In favour of Albion Loan, &c., Co. Filed October 8.

Gubbins, Joseph Payne, 116, Camden-road, Tunbridge Wells, ironmonger, &c.; £42, &c. In favour of Moses Phillips. Filed October 5.

Knott, Robert, 5, High-street, Leytonstone, ironmonger, &c.; £68, &c. In favour of Thomas Fairhead. Filed October 3.

Muir, Stephen, sen., Frederick-street Works, Heath Town, near Wolverhampton, Staffs, bicycle maker, &c.; £170. In favour of William Beard. Filed October 5.

Lucas, James, 6, Beaconsfield-terrace, Waterworks-road, Trowbridge, Wilts, ironmonger; £30. In favour of James Sumption. Filed October 15.

Smith, Charles Septimus, trading as C. S. Smith and Co., 80, Houndsditch, dealer in cutlery, &c.; £120, &c. In favour of Henry Bridger. Filed October 15.

Tate, William Henry, 9, Hesele-road, and corner of St. Thomas-terrace, Campbell-street, Hull, ironmonger, &c.; £45, &c. In favour of James F. Townend. Filed September 11.

Taylor, Joshua, 121, King-street, Dukinfield, Cheshire, ironmonger and machinist; £200. In favour of Charles Whitehead. Filed September 15.

Barden, George, The Horse Shoe, Beckley, Sussex, ironmonger, &c.; £40, &c. In favour of Union Advance Co. Filed Oct. 22.

Edwards, Blanchard, 22, Suez-terrace, St. James-road, Old Kent-road, agent for sewing machines; £15 10s., &c. In favour of South-Western Loan, &c., Co. Filed October 22.

Meynell, John, Atlas Works, Thornton-le-Beans, Yorks, machine maker; £357, &c. In favour of Shipley M. Meynell and others. Filed October 18.

Raines, John, Crescent-road, Dukinfield, Cheshire, machinist; £300 mortgage. In favour of Wright Raines. Filed Oct. 21.

The Electric Light and Power Generator Company has acquired the exclusive use of the Maxim Incandescent and the Weston Arc systems of electric lights for the United Kingdom, India, and all British colonies and dependencies excepting Canada.

The Heberling Machine Company, of 46, Cannon-street, E.C., we are glad to learn, have met with the success we predicted for their Tucking and Guaging Machine when first introduced to our notice some months ago. Owing to the great demand both here and in America, the supply has hardly kept pace with it, but the Company have now enlarged their works in America, so as to ensure an output of 300 machines per week, and have also made arrangements to manufacture the machine on this side, so that all orders can now be filled as received, and those of our readers who share in Lady Bective's views can have a machine of English make. We hear there are several imitation machines in the market. The Heberling machine is fully protected by patents, and we recommend buyers to secure the original article.

Irish Industrial Exhibition.—The official programme of the National Exhibition of Irish Manufactures, Arts, Produce, and Industries, to be held in Dublin next year, has been issued. It will consist of (1) exhibits of articles manufactured in Ireland and of Irish raw material; (2) machines suited to Irish industries, those made in Ireland being distinguished from those made in other countries; (3) an exhibition of works of art by Irish artists and residents in Ireland; and (4) an exhibition of a general loan collection of works of art. There will be no charge for space to exhibitors, and prizes will be awarded. Local committees are being formed throughout Ireland to co-operate with the general committee. It has also been resolved to give practical lectures on Irish manufactures.

THE
LIGHT-RUNNING
STANDARD
Has No Equal.

NONE SO SIMPLE,
NONE SO DURABLE,
NONE SO RELIABLE.

Examine it Before Purchasing any other.

RENNICK, KEMSLEY & CO.,
4 FINSBURY CIRCUS, LONDON,
ALSO,
Melbourne and Sydney.

THOMAS WARWICK,
MANUFACTURER OF
BICYCLE MATERIALS
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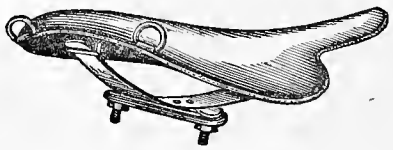
SOLE MAKER OF WOOLLEY'S PATENT DUPLEX SPRING SADDLE. STAMPINGS OF ALL KINDS.



C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

Price List Free on application to the above,
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W. HOSIER & CO.,
MANUFACTURERS OF
The Coventry 'Star,' 'Special,' and 'Champion' Bicycles & Tricycles.
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Largest Dealers in the World in New and Second-hand Machines.
MIDLAND BICYCLE DEPOT.
SMITHFORD STREET, COVENTRY.

JOURNAL OF DOMESTIC APPLIANCES AND Sewing Machine Gazette

WE have this day somewhat altered the title of this Journal, and it will be henceforth known as THE JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE. The fact is, we have had the cart before the horse for some time past; to-day we put the horse in its proper position, in front of the cart, and we now propose to pursue our journey as usual. When we started this Journal, some eight years ago, the main object was to represent the interest of the sewing machine trade, and in a subsidiary degree those of any interests that might be connected therewith; but of late years domestic machinery of all kinds has acquired so much importance in the household that we have determined to give it a more important place, while we shall still care as heretofore for all that concerns the manufacture

and sale of sewing machines. The latter trade, during the years 1876 to 1880, passed through a very exciting and litigious phase of its existence; lawsuits of all kinds were brought both in Chancery and Common Law, and a great many knotty points had to be settled by the arbitration of her Majesty's judges. All this has, we think, now passed away. The trade, which is as large, or larger, than ever, has assumed a quieter phase. Manufacturers are far more anxious to effect sales than to fight lawsuits; consequently, we have no lengthened legal proceedings to report, and our chief object and desire is to keep our readers well informed as to the state of trade in the various localities, and to acquaint them from time to time of any new patents or inventions that may interest them.

We have found, moreover, that nearly all sewing machine dealers to-day engage themselves in the sale of other kinds of domestic labour-saving machinery and appliances for promoting household comfort. To these last we purpose in future to devote a considerable portion of our space. Novelties are constantly being introduced, which we feel sure our readers will be glad to have brought under their notice as quickly as possible, for it is usually in the earlier stages of their existence that novelties of this kind bring the largest amount of profit to those who deal in them, both to those who manufacture and those who sell them. We feel sure that by the course we have adopted we shall not only retain our old friends but also make many new ones. We shall appeal to a larger circle of readers and have a much larger amount of information to afford them. We intend in no wise to depart from the lines in which this journal has hitherto been conducted. That our policy has met with the approbation of our readers is best evidenced by the fact that the number of our friends has steadily increased year by year. We shall follow the same independent course. Our columns will be still open for impartial discussion of all matters of interest affecting the Trade, and no trouble or expense will be spared to obtain for our friends the latest and most reliable information. We hope for many years to come to retain the esteem and confidence of those who have so long supported us—at all events we shall do our best to deserve it.

It is not uninteresting nor altogether unprofitable to compare the labour-saving appliances now in use in an average household with those of a similar establishment fifty years ago. What an amaziug contrast is presented! Washing machines were represented by muscle and soap; knives were cleaned by insertion in the back garden or by a rub on a board on which had been sprinkled a little brick dust; a two pronged fork and a piece of worsted did duty as a roasting jack; sewing machines were unknown; and ponderous, ugly grates, constructed one would suppose to devour the most coal possible, occupied the places that are now assigned to closed up kitchen ranges, while bachelors' gas stoves, those compact little departmental contrivances that will in a few minutes and at one operation boil coffee and cook a steak and eggs, were, of course, unknown. We should think Charles Dickens must have seen about one of the earliest of these bachelor stoves, for in the "Old Curiosity Shop" he describes the "single gentleman" as having a very similar article that very much excited the wonder and admiration of Mr. Dick Swiveller. Carpet-sweepers, egg-beaters, boot-cleaning machines, are all of recent date. Truly much has been done, but still there is much household drudgery where machinery or more modern appliances might step in. Every year domestic servants seem to become scarcer than ever, and that race of old-fashioned faithful domestics of which the Peggotty of "David Copperfield" is an admirable type, has now become almost as extinct as the Mohicans. Girls of the present day prefer the scanty pay of the factory and liberty to high pay, good food, and domestic servitude. Everything argues to a decrease of servants in the future, and assistance will have to be much more than ever obtained from cook and housemaid who require no wages and but a little oil for their board. We have said much has been done to relieve domestic labour, but far more remains to do. Why should we not have machinery for scrubbing floors, cleaning stoves, washing greasy plates, cleaning windows, and many other operations. There is yet plenty of scope for the brain in inveuting domestic labour-saving machinery, and we hope ere long to be able to chronicle some valuable inventions in the columns of the "Journal of Domestic Appliances."

The newest in sewing machines is the invention of Mr. Olivier, exhibited at the Paris Electrical Exposition. It is an automatic electrical sewing machine, very elegant in design, and the inventor says it can be made at a low figure, and the cost of running it is but a trifle. If the machine is practical, sewing machine manufacturers will have to look to their laurels.

OUR ILLUSTRATED SUPPLEMENT.

"The Greene Soft Coal Cooking Stove" is the subject of this month's supplement. This stove is constructed to burn slack coal, carbon, or antechracite coal, without forming either soot or clinker, or creating gas or nuisance of any kind. It is a good cooker, baker, and boiler, quick in operation, yet economical. It is an American invention, and is sold in England by Messrs. Churchill and Co., Wilson-street, Finsbury, E.C. All intelligent person know that the gas called oxygen, which is found in the air we breathe, is absolutely necessary for the continued existence of mankind. Withdraw the oxygen and we die instantly. The same is true as regards the life of combustion; remove or stop the flow of oxygen, and your fire goes out immediately. It is also a well-known fact that the chief drawback or obstruction to the perfect combustion of bituminous coal in any of the old style of stoves has been the short supply of air from which to extract a sufficient quantity of oxygen (at the right place and in the proper quantity) to mingle with the freed carbon and hydro-carbon of the coal undergoing the coking process, to secure practically perfect combustion. Most of the efforts of manufacturers and inventors have been directed towards alterations and additions of one kind or another to the old style of deep fireboxes with nearly perpendicular sides and with the ordinary bar-grate. These additions and alterations have proved unsatisfactory, and in the case of cooking stoves nearly all have been abandoned as worthless, and many stove manufacturers were beginning to settle down in the belief that the smoke, gas, and clinker nuisances must be submitted to for ever. In the construction of the "Greene Stove," which we illustrate, the manufacturer have laid aside the old-time style of stove and, whilst the outside appearance, the top, the oven, and the flues are similar, the shape of the firebox, the style of grate, and the location of the air flue are radically different. The firebox is shallow, about four inches deep, but very broad extending back nearly the whole length of the stove, viz., almost to back of the last row of pot-holes; this broad firebox is divided into two parts, making two combustion chambers. This division is effected by a pendent pipe attached to the long centre of the stove; this pipe, which is flattened, passes through each side of the stove, and is open at each end, and is bored

full of holes one-eight in. diameter on the under side to the number of about one hundred. The grate bars are simply narrow castings two inches wide, filled with perforations ¼in. diameter; the feed door under the slide is bored in the same way. The object of this arrangement of grates, door and air duct, is to subdivide the air before it is permitted to enter the firebox. This is absolutely necessary in burning bituminous coal; also by this subdivision they are enabled to get the air heated more quickly, which is a great aid to combustion, and moreover to prevent the formation of clinker, as in other constructions, by the rush of a large volume of cold air into the firebox among the incandescent or melted coal. The object of locating the perforated air duct on the top of and nearly in the centre of the firebox by hanging it to the long centre of the stove is to compel a union of the particles of the air flowing in at each of its ends and through the perforations with the gases of the coal set free by the heat in the front part of the firebox. By compelling these products of the coal, viz., the carbon and hydrogen, commonly called "hydro-carbon," in their progress toward the chimney to come in direct contact with the air rushing in through the small holes in the bottom of the air duct, sufficient oxygen is extracted to ignite the gases of the coal and thereby create a continuous and heavy flame in the back or secondary combustion chamber and beyond, extending at times to the flues under the oven, securing therefrom an intense heat from material which otherwise would pass off unconsumed to condense in the form of soot and fall back on the roofs and ground or lodge in the flues of the stove or chimney. The front half of the firebox may be called a retort, in which the fresh coal is placed to be roasted or cooked. The application of heat to coal sets free the hydrogen and carbon gases, both of which are very light, and they instantly seek some way to escape, naturally upward by the chimney. In the old style stove it is impossible to get enough air through the bottom grates to completely burn up these gases before they would pass out of the stove; but in this construction these volatile gases are momentarily stopped by the pendant air duct and made to mingle with the incoming oxygen through the perforated pipe. The natural and lawful result is flame, which can only be derived by the union of carbon and oxygen gases, and from this flame in the secondary combustion chamber there is great heat, and this is continued as long as the fuel lasts. With this construction we claim that we get nearly double the heat from a given amount of coal that is possible by any of the old-fashioned stoves, and at the same time prevent the formation (except in very small quantities) of soot and clinker, and the emission of gas. About one-half the coal used in ordinary stoves is sufficient in the Greene Stove to do the work of a family.

An exhibition will be held at Stockholm, Sweden, next year. Sir P. C. Owen is now in that city making arrangements as to the British section.

International Exhibition in Holland.—Holland is now smitten with the mania for international exhibitions. 1883 is the year fixed for the Dutch display which is to be.

German Sanitary Exhibition.—At Berlin active preparations are being made for the German Sanitary Exhibition to be held in that city next year, and officially styled, "Die Allgemeine Deutsche Ausstellung auf dem Gebiete der Hygiene und des Rettungswesens;" for it will include appliances for the direct preservation of life, or even property, as well as inventions which counteract sources of disease. The Prussian Minister of Public Works has granted that exhibited goods not sold at the close of the exhibition may be returned carriage free; and the Minister of Finance will permit the import and export of all exhibited goods duty free.

OBITUARY.

INSLEE A. HOPPER, AGED 45.

On the 22nd September, Mr. Hopper died of paralysis at his residence in Newark, New Jersey. We suppose no man in his time ever exercised greater sway in the sewing machine world than this gentleman. When the firm of I. M. Singer and Co. merged into the "Singer Manufacturing Company" Mr. Hopper was elected president, which office he held for many years. Mr. Inslee A. Hopper was born in Paterson, New Jersey, and was the son of the Reverend Andrew Hopper, a Baptist clergyman. As a youth he entered the employ of Messrs. I. M. Singer and Co., in the capacity of entering clerk, and by his own energy and perseverance rose step by step until he obtained the highest office, that of president. In 1876 he retired from that office, and became proprietor of a silk manufactory. During his presidency the immense factory at Elizabethport was constructed, and also the palatial offices in Arrow-square, New York. Mr. Hopper amassed a considerable fortune, and built himself the finest house in Newark. He was a man possessed of good personal features, a clear, shrewd judgment, and pleasing and entertaining manners, in short, "perfect in mind and feature, with all good grace to grace a gentleman." His funeral took place on the 26th Sept., when a large concourse of people assembled round his grave.

The Second Annual Exhibition of Food Products and articles and processes associated therewith, was opened yesterday at the Agricultural Hall, with evident attractions for numerous visitors and with very good promise of creditable success.

Smoke Abatement.—The exhibition of smoke-preventing appliances which is to be held, under the facilities afforded by her Majesty's Commissioners, at South Kensington, draws near completion, and it will be opened in the present month. Among a very considerable number of exhibits now being sent in by the chief London and provincial firms, we hear of some that should command special public attention, for they appear by the description which is given as practically affording the means of saving coal and avoiding smoke. The public desire for improvement in firing arrangements has been so far directed to a useful result by the efforts of the Smoke Abatement Committee that a variety of novelties and modifications of the old-fashioned fire-grates and kitcheners have been brought into existence. More than one open grate recently brought out applies the principle of adding fresh fuel from the back, bottom, or side of the fire with more or less simple arrangements. Some, again, have an arrangement similar in principle to the mechanical stoker attached to a steam boiler, and the coal is dropped on to the fire at the top, but in such quantities at a time that it may be readily ignited, and the fire maintained in a glowing state, rather than in a smouldering condition, which causes smoke while giving out little heat. More than one of the new grates revolve; the ordinary coal is put on in the usual manner and a movable set of bars is closed down above the coal; the grate, which revolves horizontally on its axis, is inverted and the fire is thus kept bright at the top and burns downwards. Another form of grate is of sufficient depth to hold the supply of coal for several hours' consumption, and the rate at which the fire burns downwards is regulated by a slide, which can be drawn down at pleasure. We are informed that the prices of these grates in several cases does not exceed those of the ordinary description of similar size. Besides the grates thus varied materially from the ordinary patterns, there are some to be shown which have but a slight alteration in the arrangement by which air is admitted to the fire, and the draught is so regulated as to render the combustion of the coal more perfect, and therefore less smoky. Varieties of close and open kitcheners specially devised to prevent smoke will be exhibited, and a special feature of the exhibition will be the display of improved apparatus for gas heating and cooking.

ABOLITION OF DISTINCTIVE STAMPS FOR TELEGRAMS.

The assimilation of the penny adhesive stamps for postal and Inland Revenue charges having been received by the public with much satisfaction, it has been decided to proceed further in the same direction and to abolish the distinctive stamp used for the payment of the charges upon telegraph messages. On and after November 1, therefore, the use of distinctive telegraph stamps will be discontinued, and postage stamps of all amounts, including the penny postage and Inland Revenue stamp, will be available for the payment of telegraph charges. This measure will facilitate the posting of telegrams in letter-boxes during the night, or where there is no telegraph office within a convenient distance, as telegrams thus posted will be conveyed, without extra charge, at the next collection of letters, to the nearest telegraph office which is open, for the purpose of being transmitted by the wires at the earliest possible moment. In those cases in which difficulty would be experienced in obtaining a printed telegraph message form, ordinary paper may be used. The message may, or may not, at the option of the sender, be enclosed in an envelope, but if an envelope is used it must be marked "Telegram, immediate." The stock of telegraph stamps and stamped telegraph forms in the hands of the public may still be used for telegraph purposes, but not for postage or Inland Revenue payments.

SUCCESS FROM FAILURE.

The career of a merchant is far from being one in which there are no drawbacks, and there are but few traders who at some time have not felt that they were placed in a precarious position, from which it needed all their skill to extricate themselves. The business qualities of a man are wonderfully developed and sharpened by the difficulties he meets and overcomes, and in this school of experience, hard though it may often be, he learns lessons that could be gained from no other source. In fact, there are many men whose capabilities are only developed by trouble or opposition, and when this occurs the real worth of a man is brought out.

It will not do to supinely yield to difficulties and give up the fight in despair of ever making a success. Faint heart will not win business success any sooner than it will win fair lady. It is no shame to have adversity come to any man, but he should keep his manhood and fight to the end. Many a man has lost a fortune who did not lose heart to still accomplish great things, and in many instances a new fortune was built on the ruins of the old. Failure of fortune to such does not mean a failure of their lives; it stirred them on to still greater exertions.

To lose courage in the struggle of life on account of some reverse of fortune is a bad fate for any man, for when hope and courage are gone, man becomes a wreck. But, fortunately, in this land of ours, prospects for ultimate success are so good that none need despair. Success in many cases is as much due to a man's failures as to his triumphs. Every man should expect to meet failures in his career, and if he is sensible and keeps his pluck, these trials will be stepping-stones to his future success.

TO TAKE OUT MILK AND COFFEE STAINS.

These stains are very difficult to remove, especially from light coloured and finely-finished goods. From woollen and mixed fabrics they are taken out by moistening them with a mixture of 1 part glycerine, 9 parts water, and ½ part aqua ammonia. This mixture is applied to the goods by means of a brush, and allowed to remain for 12 hours (occasionally renewing the moistening). After this time, the stained pieces are pressed between cloth, and then rubbed with a clean rag. Drying, and, if possible, a little steaming, is generally sufficient to thoroughly remove the stains.

Stains on silk garments which are dyed with delicate colours, or finely finished, are still more difficult to remove. In this case, 5 parts glycerine are mixed with 5 parts water, and ½ part of ammonia added. Before using this mixture, it should be tried on some part of the garments where it cannot be noticed, in order to see if the mixture will change the colour. If such is the case no ammonia should be added. If, on the contrary, no change takes place, or if, after drying, the original colour is restored, the above mixture is applied with a soft brush, allowing it to remain on the stains for 6 or 8 hours, and is then rubbed with a clean cloth. The remaining dry substance is then carefully taken off by means of a knife. The injured places are now brushed over with clean water, pressed between cloths, and dried. If the stain is not then entirely removed a rubbing with dry bread will easily take it off. To restore the finish, a thin solution of gum arabic, or in many cases beer is preferred, is brushed on, then dried and carefully ironed. By careful manipulation these stains will be successfully removed.

TRADE AND FINANCE.

The Board of Trade Returns for September have been issued, and are indicative of steady improvement in commercial affairs. The aggregate of the exports is £20,900,563, as compared with £20,027,347 in the corresponding period of last year, and £17,402,242 in that of 1872. The increase is very general, but with regard to cotton piece goods there is a decrease of 5·4 per cent. in quantity and 8·8 per cent. in value, while the increase in the shipment of cotton yarns is very small. The increase in iron and steel amounts to 26·7 per cent. in quantity and 16·2 per cent. in value; in linen piece goods to 24½ per cent. in quantity and 13·1 per cent. in value; in the various descriptions of woollen yarn and goods to between 13½ and 40·3 per cent. in quantity, and between 5·4 and 18·1 per cent. in value; and in coal to 10·9 per cent. in quantity and 12.7 per cent. in value. The aggregate imports of foreign and colonial merchandise were valued at £33,191,225, against £34,275,327 in the same month of last year, and of £27,723,428 in that of 1879. The decline of £1,084,000 in the imports, as compared with September, 1880, is distributed generally over articles of food and raw materials, with the exception of raw cotton, in which there is an increase of 260,000 cwts in quantity and £742,000 in value. This increase, and the decline on the exports of cotton piece goods was owing, doubtless, to the "corner" at Liverpool, which had the effect not only of attracting large supplies of cotton, but also of disorganising, to some extent, the business of manufacturing. The aggregate of the exports for the nine months of the current year which have now elapsed is £171,820,000—an increase of £4,774,000, or nearly three per cent., compared with the corresponding months of 1880; and the aggregate of the imports in the same period £296,844,000—a decrease of £13,063,000, or rather more than four per cent., as compared with the same period of 1879. Gold to the value of £781,130 was imported, and £1,496,670 exported during September. For the past nine months the imports have been £7,782,871, and the exports £11,157,559.

The number of failures in England and Wales gazetted during the week ending Saturday, Sep. 24th, was 176. The number in the corresponding week of last year was 196, showing a decrease of 20, being a total decrease, in 1881, to date, of 587. The failures were distributed amongst the following trades, and, for comparison, we give the number in each in the corresponding weeks in 1879 and 1880:—

	1881	1880	1879
Building Trades	18	22	27
Chemists and Druggists	2	1	5
Coal and Mining Trades	1	3	1
Corn and Cattle	4	6	7
Drapery Trades	15	13	25
Earthenware Trades	4	—	2
Farmers	10	12	20
Furniture and Upholstery Trades...	5	7	9
Grocery and Provision Trades ...	32	37	36
Hardware and Metal Trades ...	6	7	6
Iron and Steel Trades	3	5	5
Jewellery and Fancy Trades ...	7	2	7
Leather and Coach Trades... ...	9	12	16
Merchants, Brokers, and Agents...	18	30	44
Printing and Stationery Trades ...	5	3	6
Wine, Spirit, and Beer Trades ...	21	19	23
Miscellaneous	16	17	23
	176	196	262

Harper Twelvetrees' "Fountain" Washer

RETAIL PRICE, 10s. 6d.

Is entirely SELF-ACTING; no rubbing, labour, or attention required; no handles, wheels, pounders, or brushes. A current of boiling suds is passed through and through the clothes, which are thus washed and beautifully bleached at the same time; the result is really astonishing. Hundreds of thousands of busy mothers require this wonderful labour-saving Machine. Full Particulars and Wholesale Price to Agents on application to

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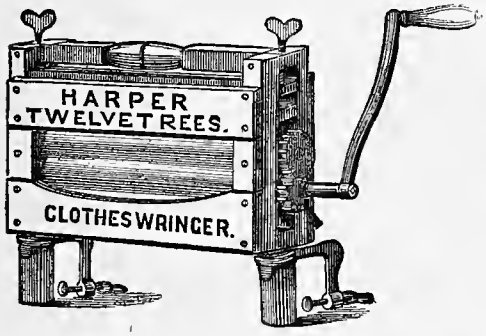
Patentee and Manufacturer, 80, Finsbury Pavement, London, E.C.

HARPER TWELVETREES'

INDIA-RUBBER CLOTHES-WRINGERS,



WITH COG-WHEELS,

Strong Frames, Metal Bearings, Adjustable Claspers, and other great improvements, have maintained their supremacy for eighteen years as the "Gem of Clothes-Wringers." They will fit tubs of every shape, and wring the largest as well as the smallest articles dry instantly without labour, dropping them into the basket nearly dry enough to iron or mangle. These well-known and much-prized Clothes-Wringers are specially adapted for the heavy, constant work of laundresses, and are immensely superior to the slightly-made delicate American Importations.

Prices: 30s., 40s., 50s., or without Cogwheels, 25 ., 30s., 35s.

Harper Twelvetrees' Cheap Fifty-Shilling Mangle and Wringer, 24-inch Rollers.

Harper Twelvetrees' Magic Prize Washing Machine, 21s.

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HOLROYD'S NEW PATENT KILTING MACHINE

Sells at sight, and is acknowledged by the Trade in England and Abroad to be the best for all purposes, upwards of **8,000** having been sold in two years, and the still increasing demand testifies to its unequalled exeellence.

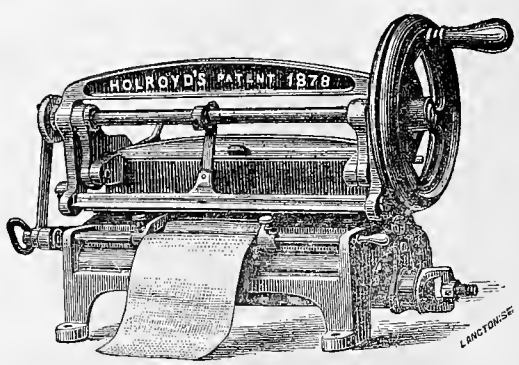
THIS Machine, by its simplicity and construction, will at once commend itself to Merchants and Manufacturers, and will supply that which has long been wanted, namely, a good, practical, and durable Machine at a reasonable price.

It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

It will make any kind of kilt desired, from the narrowest to an inch wide, and any depth up to ten inches, and can be altered to different styles and widths immediately, and in a most simple manner.

It is specially adapted for manufacturing and dress-making purposes, and hy its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

With the gas arrangement perfect combustion is secured, thereby avoiding any smoke or smell which is so unpleasant in most other machines, and being nickel plated all over does not rust.



Price, complete with gas arrangements and 4 heating irons, £3 3s.

ELECTRO-PLATNIG BY STEAM POWER, AND DYNAMO ELECTRIC MACHINES,

Combining all the latest improvements in **GILDING, BRONZING, &c.,** on rough or smooth surfaces, on any kind of metal goods.
Special Terms offered to Manufacturers of articles suitable for plating.

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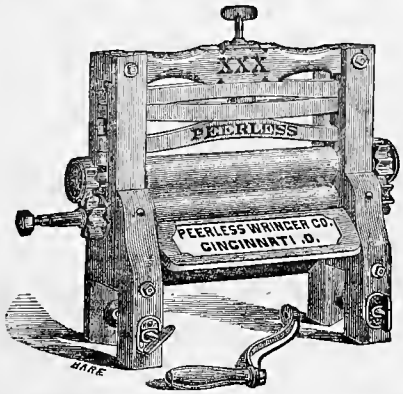
THE "PEERLESS" CLOTHES WRINGER

Is the leading Wringer of America.

AWARDED THE FIRST PRIZE *Wherever it has competed.*



Shippers, Merchants, and the Trade PLACED ON THE *MOST FAVOURABLE TERMS.*

The best, the cheapest, the most substantial and simple wooden frame Clothes Wringer made.

Enquiries and Orders to be addressed to the Sole European Representatives,

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8, PLACE VENDOME, PARIS.

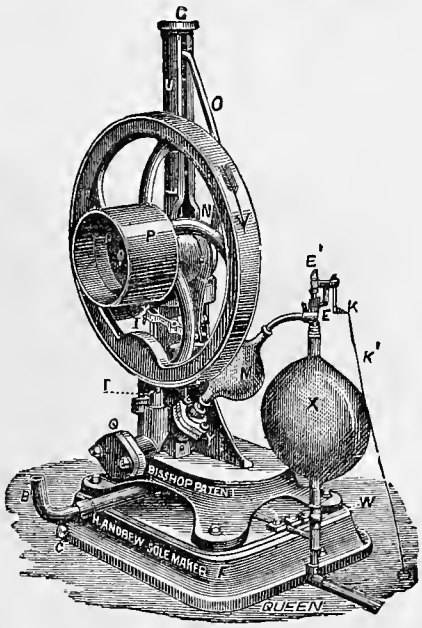
AGENT WANTED.

THE "BISSCHOP" GAS ENGINE.

Piston and Valve need no Lubricator. Will start at a moment's notice.

POWER.	PRICE.
One Man	£25 0 0
One-and-a-half Man	30 0 0
Two Man	35 0 0
Four Man	50 0 0

NO SEPARATE METER

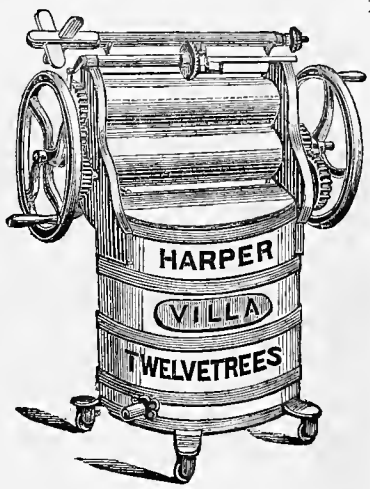


NO WATER WANTED.

J. E. H. ANDREW,
18, Waterloo Road, STOCKPORT.

WASHING-DAY REFORM

HARPER TWELVETREES'
RENOWNED "VILLA"
WASHING MACHINE
£2 15s., OR WITH
MANGLER & WRINGER, £5 5s.,



Does Fortnight's Family Wash in Four Hours, without BUBBING OR BOILING, as certified by thousands of delighted purchasers It is easy to work, easily understood, strongly made, durable, does not injure the clothes, but really saves them; and is the only Washing Machine in the world which renders Boiling unnecessary, and saves five or six hours of copper firing each washing day. The Five-Guinea "Villa" Washer possesses tremendous washing power, and will wash 15 dozen collars and ladies' cuffs in five minutes; 150 pocket-handkerchiefs in five minutes; 60 hotel table cloths in an hour; 10 dozen bedroom towels per hour; 3½ dozen shirts per hour; 1 dozen sheets per hour, and counterpanes, blankets, curtains, &c., in proportion. Such success is unparalleled! Illustrated Prospectuses and Export Quotations post free

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Sole London Agent for Kenworthy's "Paragon Washing Machine.

OILS.

IMPERIAL SEWING MACHINE,
In 1 to 6 oz. Bottles.
CRYSTAL SPERM SEWING MACHINE,
In 1 to 2 oz. Bottles.
BICYCLE LUBRICATING,
In bulk or bottle to order.
"SOLAR" BICYCLE LAMP OIL,
In 4 and 10 oz. Bottles.
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As consigned to us by the drum or barrel.

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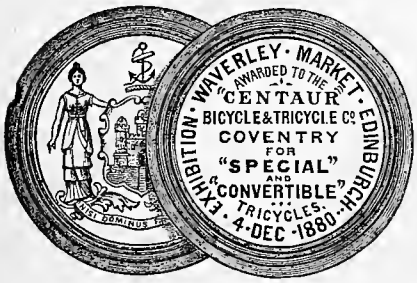
Edinburgh Bicycle & Tricycle Exhibition, Dec., 1880

Where the Latest and Most Improved Machines for the Present Season were Exhibited.



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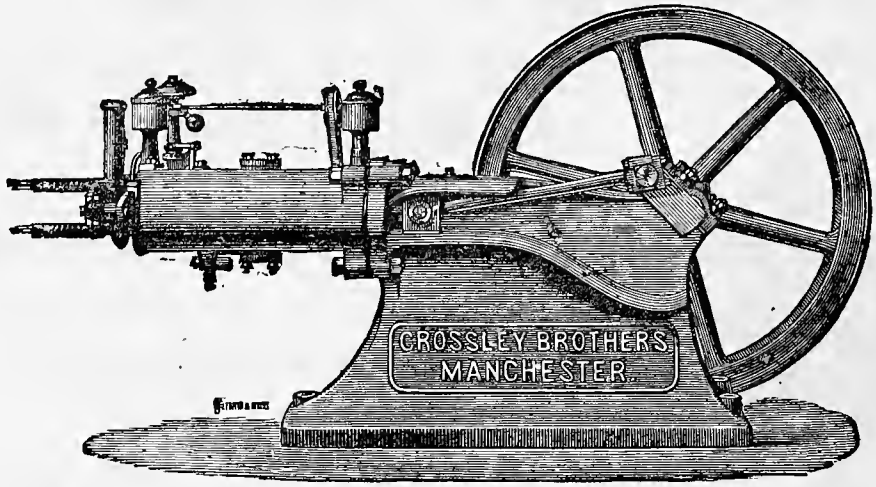

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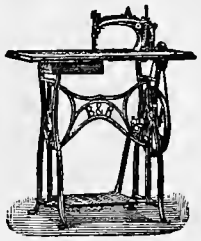

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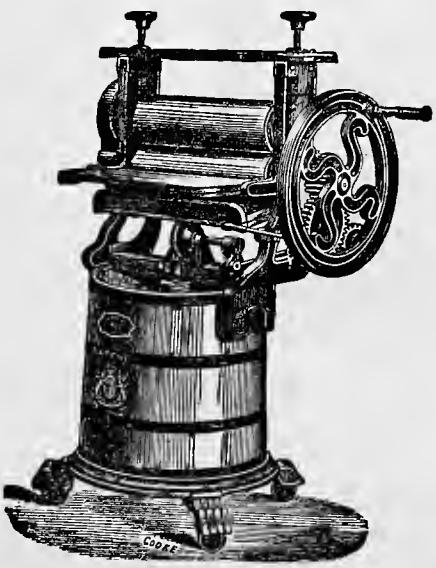

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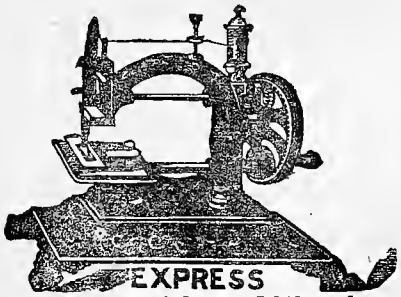

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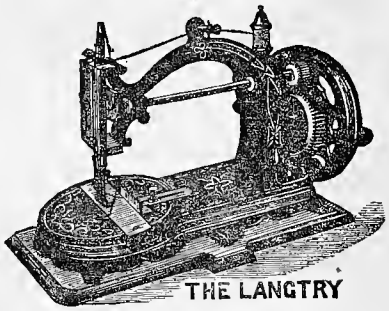

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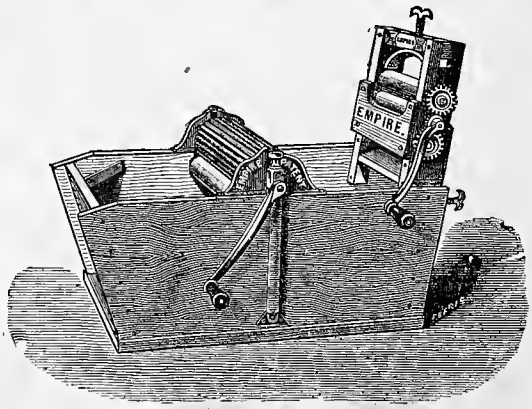

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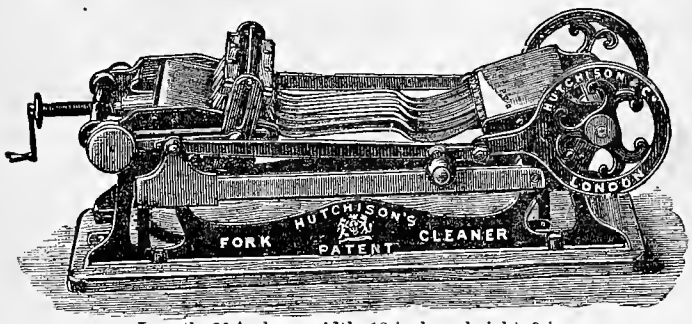

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Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

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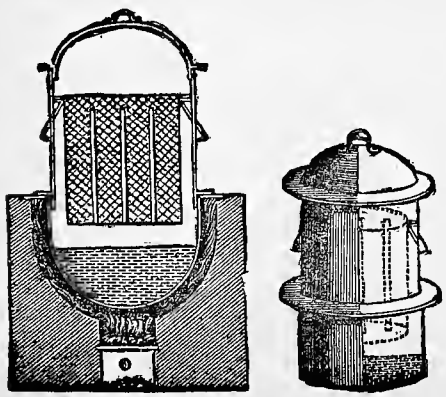

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The cheapest and most economical Washer introduced, avoiding all the wear of linen caused by present modes. Things to be washed only require to be soaked, soaped, steamed, and hand-rubbed once,

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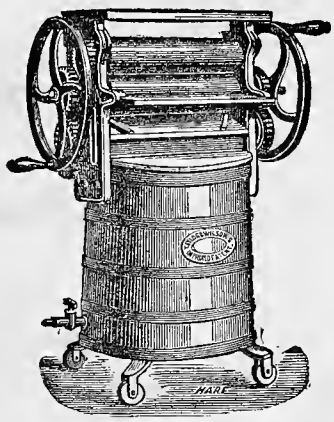

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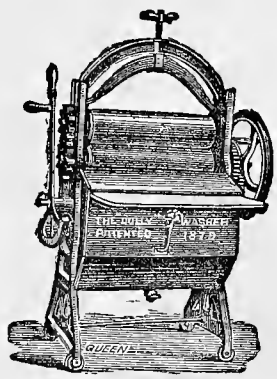

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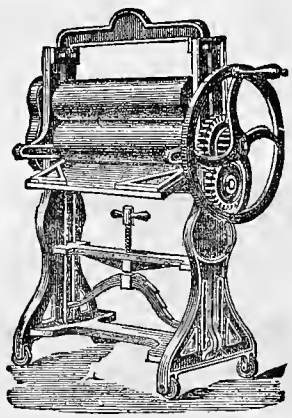

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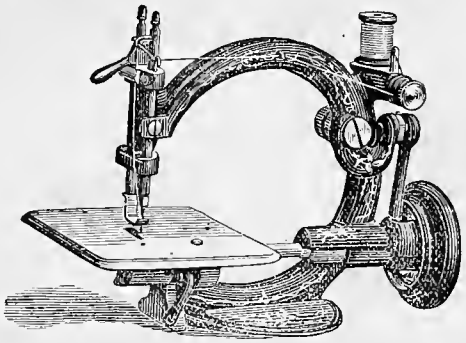

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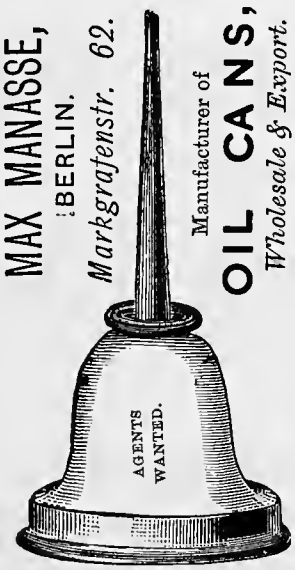

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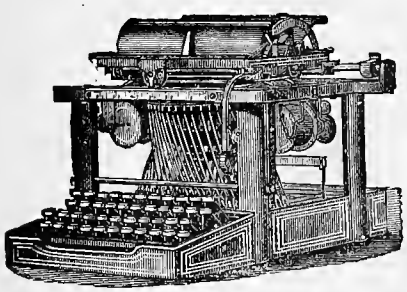

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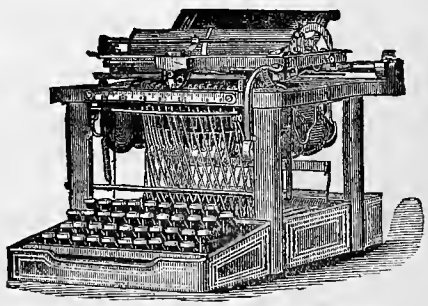

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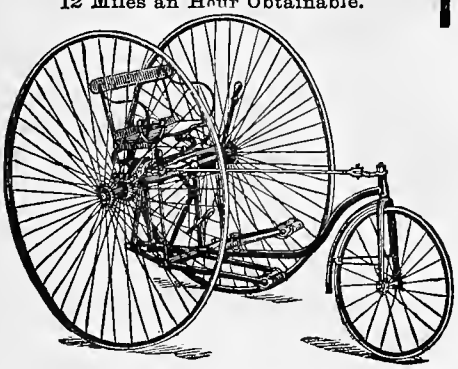

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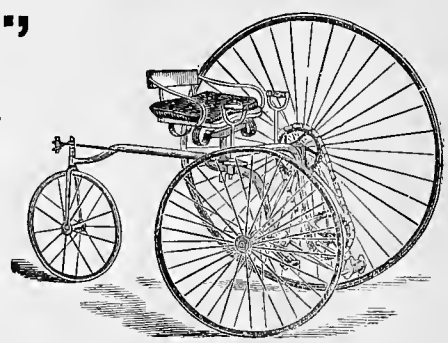

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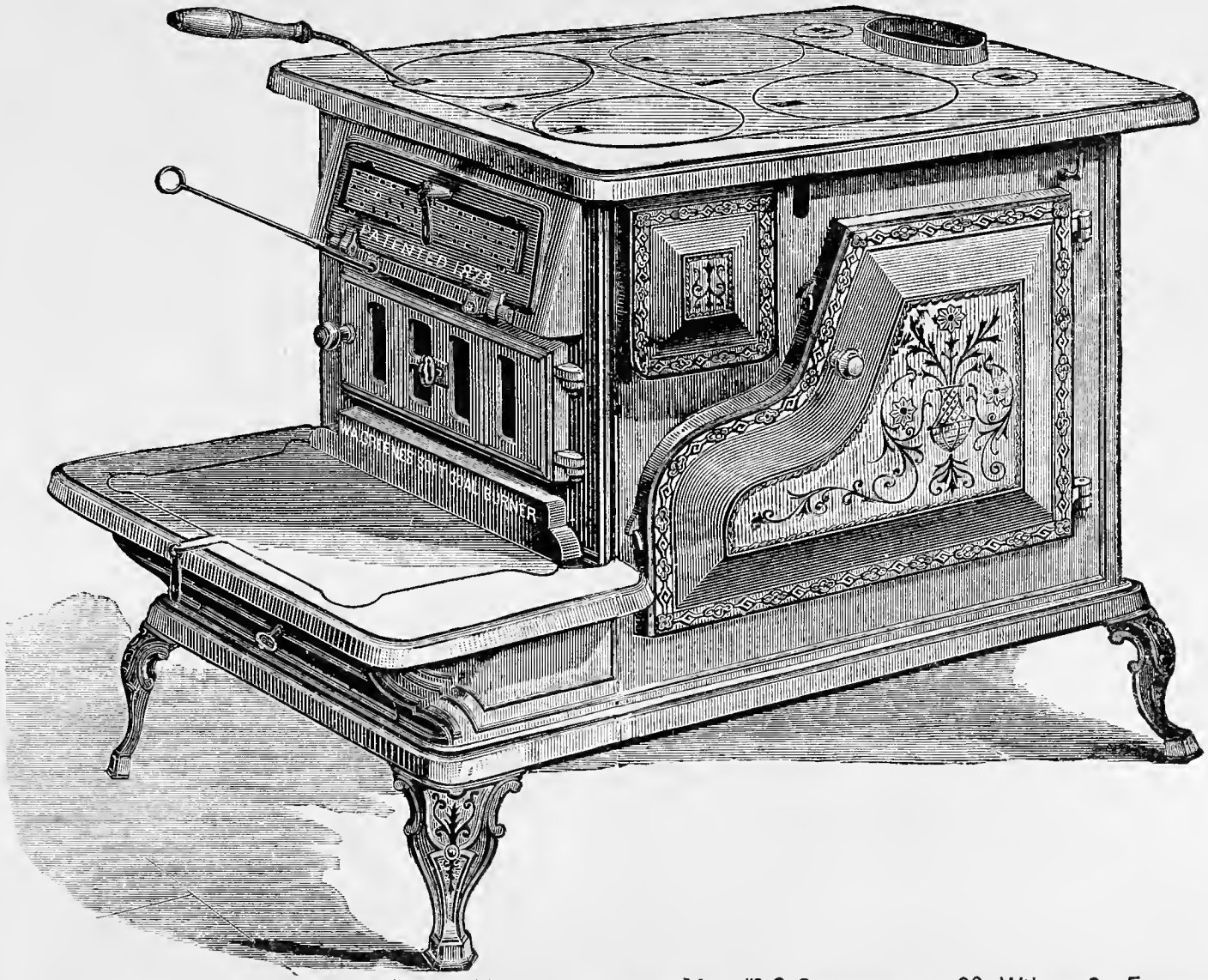

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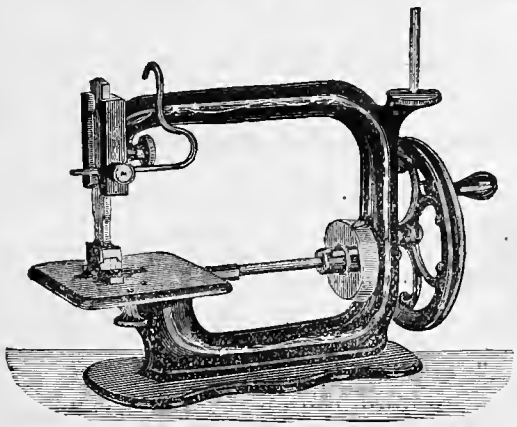

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THE

Journal of Domestic Appliances

and Sewing Machine Gazette.

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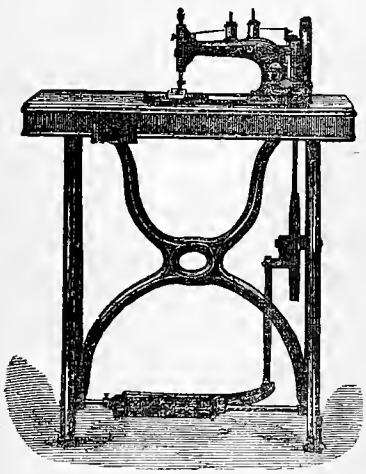

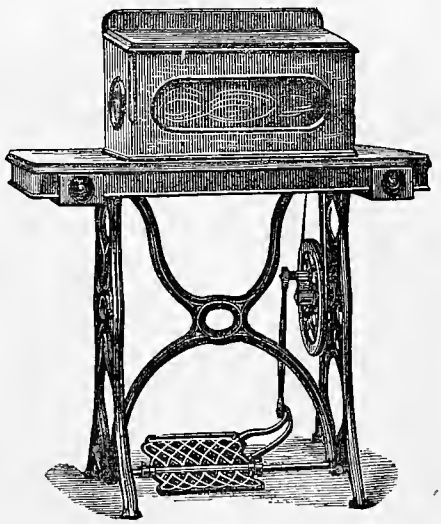

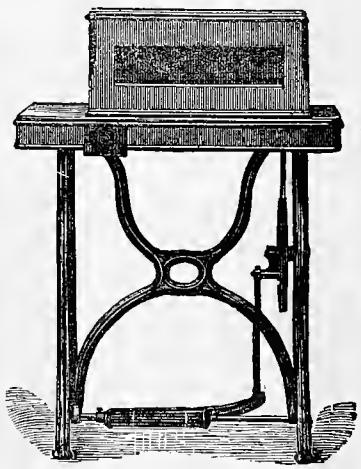

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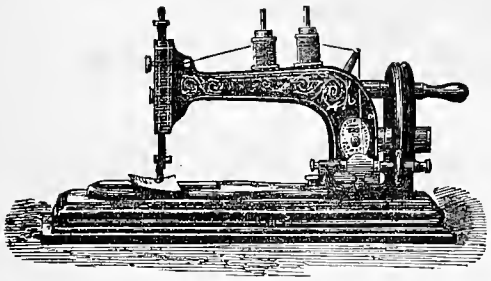

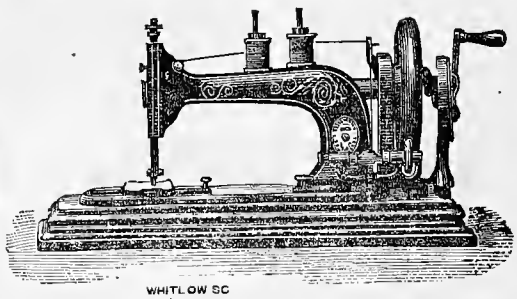

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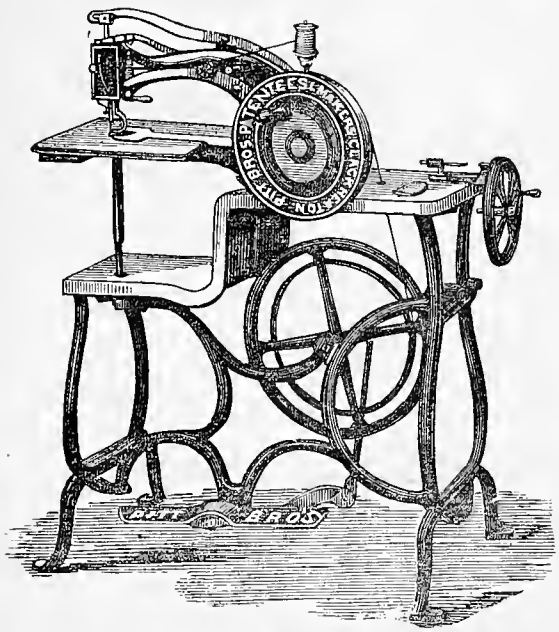

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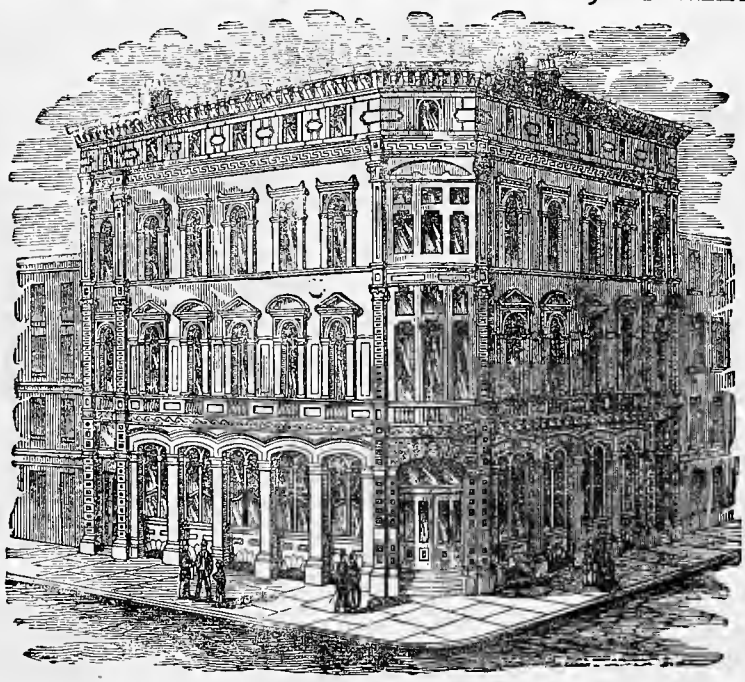

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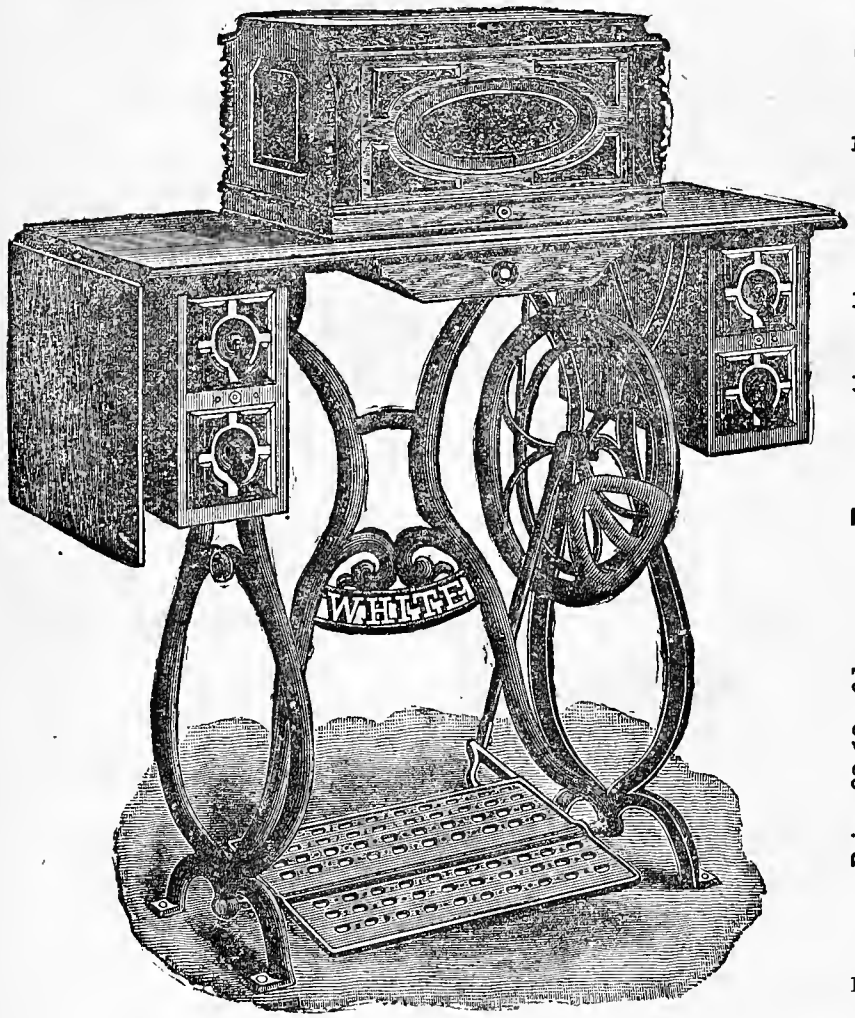

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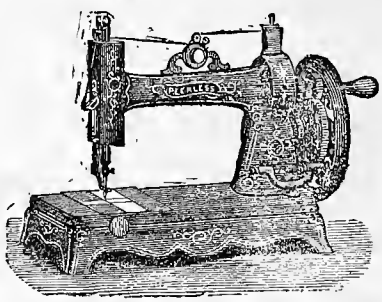

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It can be worked by hand, treadle, or steam power, and heated by gas or irons as desired; and it runs so light that it can be worked by hand for any length of time without the slightest fatigue.

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It is specially adapted for manufacturing and dress-making purposes, and by its lightness, rapidity, and correctness, together with the fact that it will work muslin, thick cloth, or felt with equal facility, it cannot fail to be a great saving, and of the greatest advantage.

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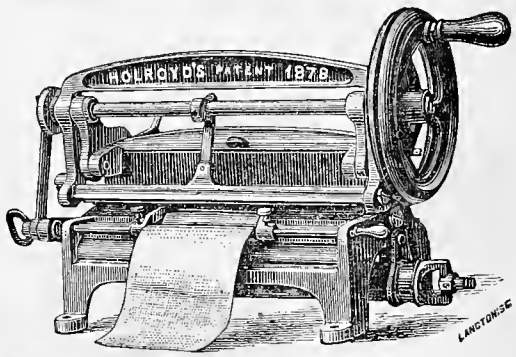

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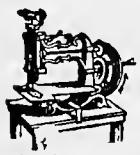
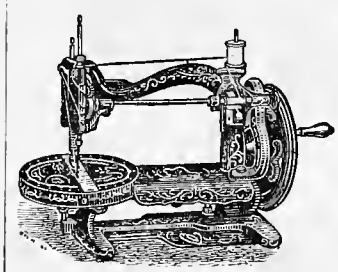


£2 2s. Complete.

THIS Machine has obtained the highest reputation and an enormous sale, both under its true name ("Raymond's"), and also as the "Weir 55s. Machine," &c.—(See caution below). It is durable, rapid, exceedingly simple, neat, not liable to get out of order, and warranted to sew from the finest muslin to the heaviest material.

CAUTION.—JAMES G. WEIR, who, for about eight years obtained these genuine Machines, is no longer supplied with them by the Inventor and Manufacturer, Mr. CHARLES RAYMOND.

BEWARE OF ALL COUNTERFEITS.



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Bicester, Sheep-street
Biggleswade, Shortmead-street
Bingley, Main-street.
Birkenhead, 164, Grange-lane
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Blackburn, 54A, Church-street
Blyth, Woodbine-ter., Waterloo
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Brighton, 6, North.,st., Quadrant
Bristol, 18 & 19, High-street
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Burton-on-Trent, 76, Guild-street
Bury-St.-Edmunds, 78, St. John-st.
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Cheadle, High-street
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Cheltenham, 24, Pittville-street
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Cleckheaton, 5, Crown-street
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Congleton, 7, Mill-street
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Denbigh, 36, Park-street
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Guernsey, 17, Smith-street
Guildford, 161, High-street
Halstead, 53, High-street
Hanley, 48, Piccadilly
Harrogate, 11, Westmoreland-st.
Hastings, 48, Robertson-street
Heckmondwike, 2, Market-street
Hednesford, Station-street
Hereford, 57, Commercial-street
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Hexham, 20, Market-place
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Hinckley, Castle-street
Huddersfield, 8, New-street
Hull, 61, Whitefriargate
Huntingdon, High-street
Ilkeston, 75, Bath-street
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Jersey, 14A, New-street
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Kendall, 3, Wildman-street
Kidderminster, Bull Ring
Lancaster, 19, Brock-street (corner of Penny-street)
Leamington, 38, Windsor-street
Leeds, 14, Boar-lane
Leek, 27, Russell-street
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Norwich, 55, London-street
Nottingham, 20, Wheelergate
Oldham, 70, Yorkshire-street
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Rochdale, 66, Yorkshire-street
Romford, Market-place
Rotherham, 109, Main-street
Rugby, Lawford-road
Runcorn, High-street
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Warrington, 44, Horsemarket-st.
Watford, Queen's-road
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Glasgow, 39, Union-street
Greenock, 8, West Blackhall-st
Hamilton, 32, Cadzow-street
Hawick, 3, Tower-knowe
Inverness, 14, Union-street
Kilmarnock, 33, King-street
Kirkcaldy, 69, High-street
Kirkwall (Orkney), Broad-street
Montrose, 96, Murray-street
Paisley, 101, High-street-cross
Partick, 97, Dumbarton-road
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Peterhead, Rose-street
Stirling, 61, Murray-place
Thain, Lamington-street
Thurse, Princes-street

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Athlone, Church-street
Ballina, Bridge-street
Ballymena, 67 and 68, Church-st
Belfast, 3 and 4, Donegal-sq., N
Carlow, Tullow-street
Coleraine, New-row
Cork, 79, Grand-parade
Drogheda, 97, St. George's-street
Dublin, 69, Grafton-street
Ennis, Jail-street
Enniskillen, 15, High-street
Fermoy, 1, King-street
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Kilrush, Moore-street
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Londonderry, 1, Carlisle-road
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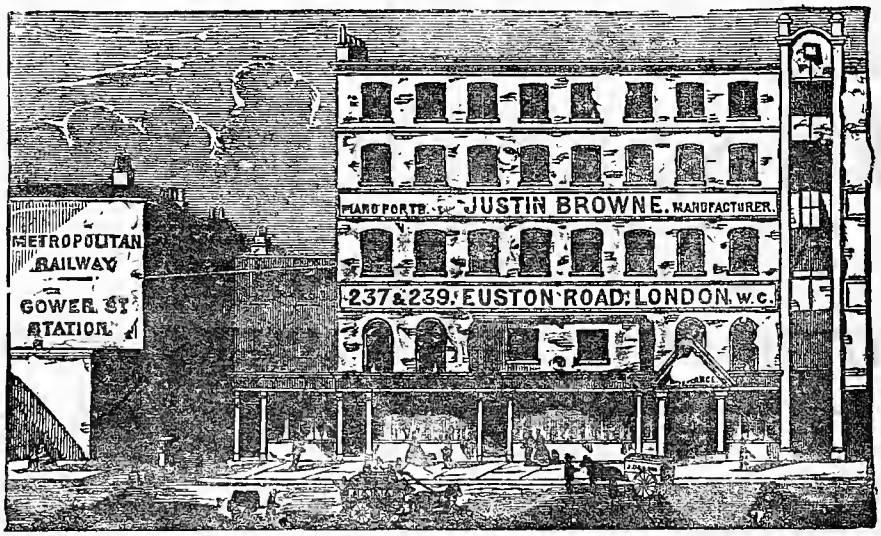
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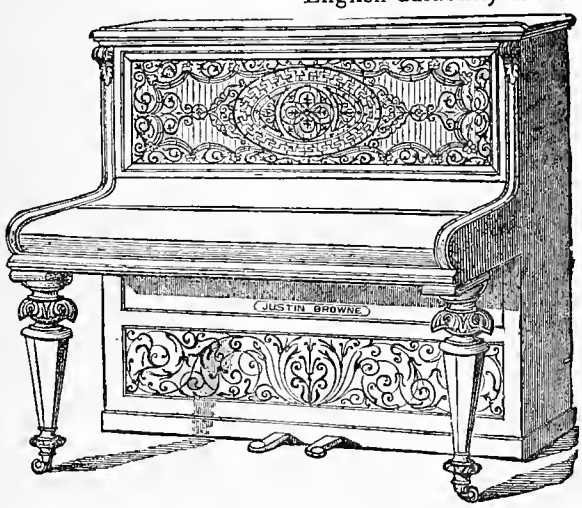

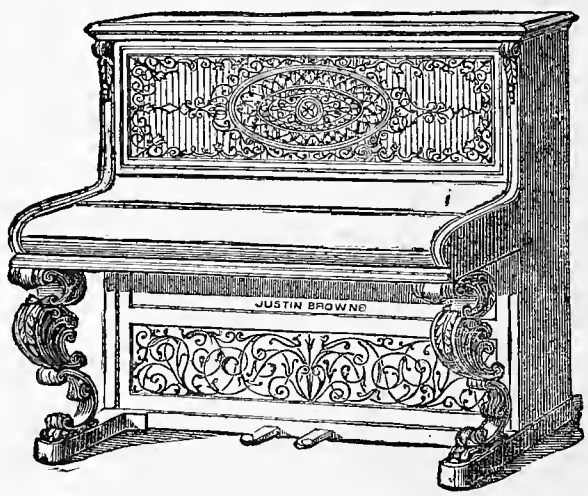

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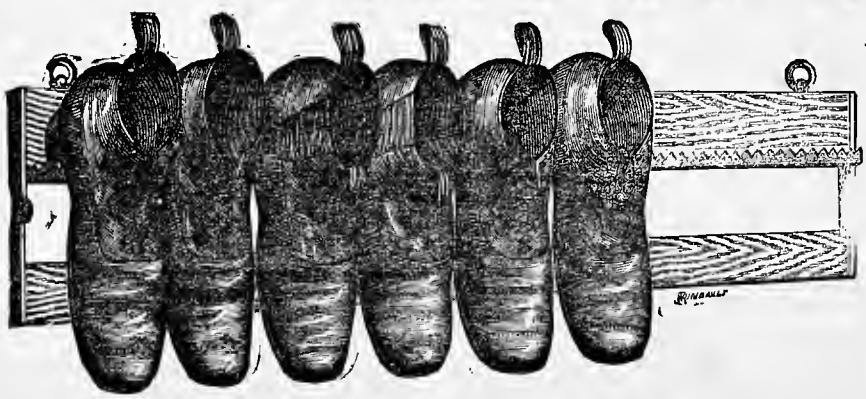

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ECONOMY.—Pages 136, 137:—"All duties counteract the operation of nature's arrangements to bring prices down to the lowest; they are an artificial impediment put up by selfish men to the Creator's liberal supply of good things for all men. The action of duties is to enhance prices—that is to say, to limit their use to the privileged few, when God wanted His bounty to reach all of us. Stripped bare and viewed in their hideous nakedness, protection, reciprocity, retaliation, 'fair trade,' mean putting a burden upon all consumers, putting a tax upon, taking out of the pockets of, the majority a something to prop up in an artificial and 'unnatural' manner an industry by the minority that, left alone, cannot sustain itself—is not worth, in fact, in the open market of the world what it has cost to produce. If this be true, it is in defiance of all economic laws, it is in defiance of what any individual can do long without becoming bankrupt. It follows, therefore, inevitably that if followed by nations it is equally unwise economically, and should be opposed with heart and soul by all patriots and statesmen."

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ECONOMY—Pages 11, 12:—"It is of equal importance to the nation at the present time that the people really understand what 'Free Trade' means, otherwise they will be led away by the plausible appeals to impose duties under the disguise of 'Fair Trade,' 'Reciprocity,' 'Retaliation,'—all meaning Protection, under a new name—a return to the fatal policy of the past. Protection adopted in any form by us will be an act of national suicide. It would be our ruin as a commercial and manufacturing nation, and deservedly so, as we know what is right, and must suffer if we lack the moral courage to do it. There is no reason for 'England's decline,' but to maintain our position we must understand more clearly what that position is, how it was gained, and how alone it can be maintained. By the time you have read 'Economy' I hope you will see that 'Protection' injures the nation that tries to protect itself; also, that if we buy of others they must buy of us. My advice is—remove any existing restriction to 'Free Trade,' home and foreign. Encourage them to send here, as, if our goods be worth buying, in proportion as we buy from others will those others be compelled to buy of us."

ECONOMY.—Pages 161, 162:—"Free trade reduces the price of all commodities to the minimum; protection enhances the price not only of the article protected, but of all other articles consumed in the protected State. Instead of getting extra strength for the battle, you create interests, the vitality of which is entirely dependent on the national bounty, and which are a perpetual drain upon the resources of the country; and all under the mistaken idea that you will not pay the foreigner for what you can produce yourselves, forgetting that all 'commerce is barter,' that you pay him for his goods by your goods, that you in reality give him what has cost you 15s., and in exchange for which you get what would cost you 20s. to make, and he on his side gets from you for 15s. what would cost him 20s. to make. So free trade benefits both parties; and there is no surer evidence that you are obeying the Creator's laws than when the effect of your acts tends to the general benefit. Free trade is for the good of the people generally; protection is based upon the plea that the interests of certain limited classes should be consulted to the detriment of the country and the world at large, stripped bare, protection means 'that all should be injured in order that a few should be favoured.' It is a doctrine utterly false and untenable. It implies opposition to all change and denial of all progress, because the change might be injurious to a few, though the progress would be beneficial to the many. Free trade admits of no compromise; the system is bad or good, right or wrong. It is imperative, therefore, that the 'people understand it,' they are much interested in it. There is nothing abstract or technical about it. Its benefits and the disadvantages of its rival, protection, have been put forth clearly by myself in these pages; so that anyone can understand it. If I have myself understood, you will see that if all the world but Great Britain repudiates free trade, the advantage is to Great Britain, the loss to the rest of the world. You will see that to 'sell much and buy little' is an impossibility, as one depends upon, and is equal with the other. 'Imports' is a supply that creates compulsory demand. You must import to export. You cannot export unless you import. To 'sell much, therefore, you must, by your production, be able to 'buy much."

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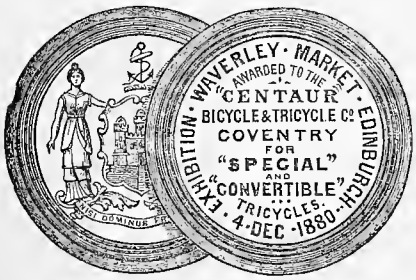

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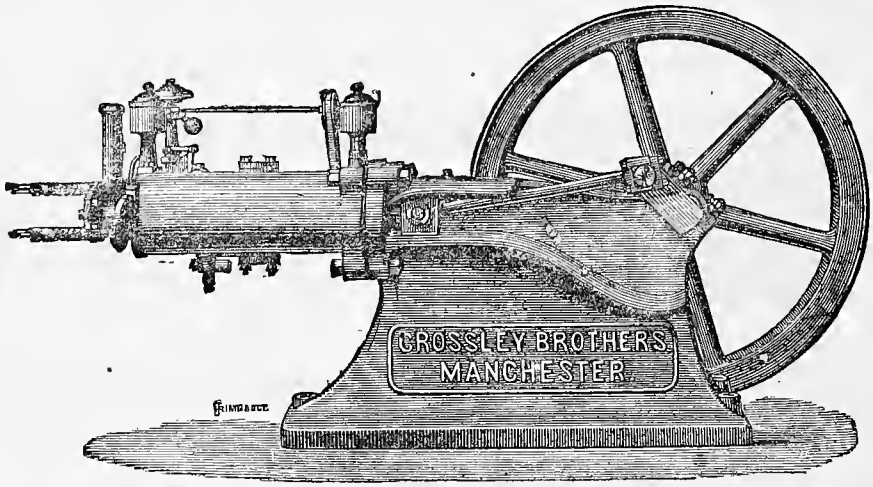

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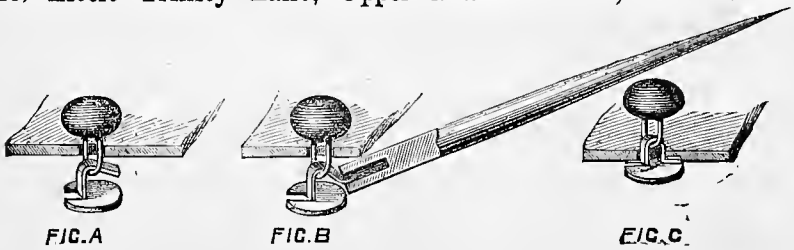
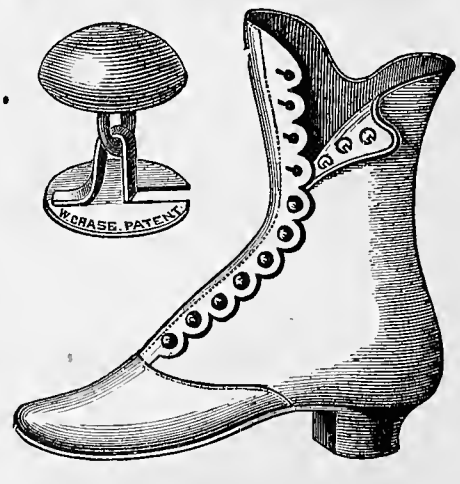


FIG. A FIG. B FIG. C



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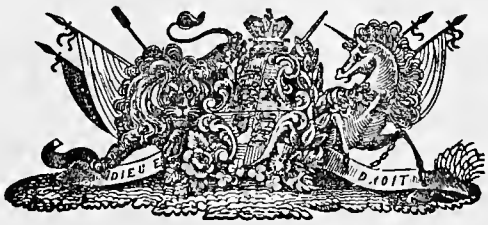

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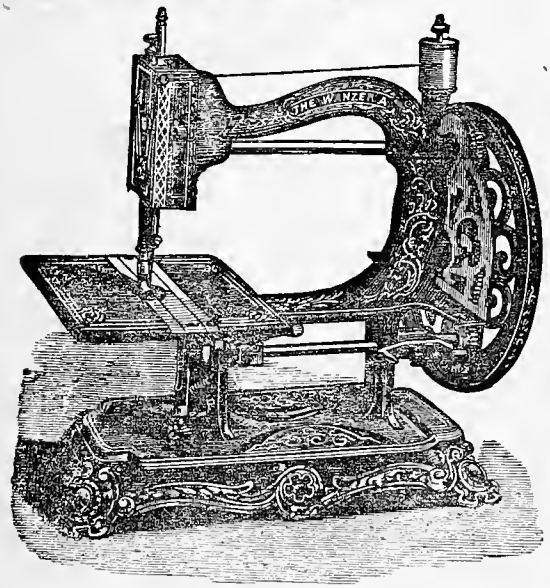

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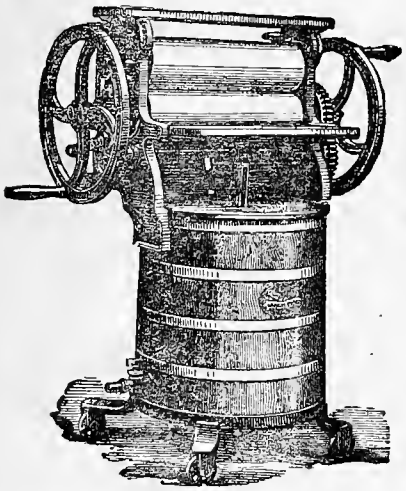
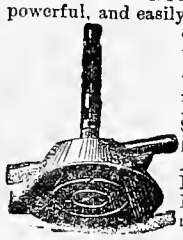


Showing Plunger, which works up and down in tub about 60 times per minute, atmospherically forcing the hot water and soap through the clothes, thus not only loosing the dirt but thoroughly removing it in a short space of time, without any possibility of wearing or injuring the most delicate articles.



The "**PARAGON**" Washer, Wringer and Mangler (KENWORTHY'S Patent) is a compact powerful, and easily-worked Machine, the highest type of perfection and scientific construction, and contains more of all that is excellent than any other Washing Machine in the world, and is rapidly gaining the reputation of being the best for Family use. Awarded Highest Honours in Trial of Washing Machines at the National Agricultural Show, Southport; Amalgamated Society's Show, Newton Heath, Manchester, First Prize, Silver Medal; Oldham Agricultural Show, First Prize, Silver Medal, General Competition, and also an extra First Prize, Silver Medal, for Improvements; Worsley Agricultural Show, the Society's Medal; Altrincham Agricultural Show, First Prize; Crompton and Shaw Agricultural Show, First Prize, Society's Medal; Saddleworth Agricultural Show, First Prize, Society's Medal; also gained Prizes and Honours at the Northumberland, Halifax, Todmorden, and Preston Agricultural Shows.

Mr. Jordan Evans, 92, Cawder Street, Prince's Road, Liverpool, says:—"I beg to inform you that the 'Paragon' Washing, Wringing, and Mangling Machine supplied by you some time ago is a great success, performing all you claim for it, and more. The mechanism is simple, yet effective the articles to be cleansed being acted upon by atmospheric pressure and suction alternately, instead of being turned and twisted round, as in most other Machines, the most delicate fabrics are uninjured. I may add that a wash which previously took eight hours can be comfortably completed in less than two hours."

Patentees and Sole Manufacturers of the Celebrated and World-Renowned **PATENT "CANADIAN WASHER,"** which is the most Simple, most Effective, and the most Economical Washer ever offered to the Public. This is on the same principle as the "Paragon Washer" Plunger, but is made to use by hand in any ordinary maiden tub, washtub, or bowl. Over 30,000 have been sold in a short time.

AGENTS WANTED in Districts not yet Represented.

E. N. KENWORTHY & CO., WASHING MACHINISTS, ALPHA WORKS, OLDHAM, LANCASHIRE.

COMING OF AGE OF MR. WILLIAM LITLER BRADFORD.

IT is by no means unusual to hear of a youth arriving at that particular age when he becomes, so far as the English law is concerned, a man, with a man's responsibilities. It is, however, not everyone, when "passing from youth into manhood," who has such cause to remember that occasion as Mr. William Litler Bradford. On the 19th of October this gentleman reached man's estate, and on Saturday, the 22nd of October, the occasion was celebrated by a banquet at Belle Vue, Manchester. Mr. Wm. Litler Bradford is the only son of Mr. Thomas Bradford, whose name in connection with laundry machinery is as "familiar to our ears as household words." Some time ago, on it becoming known that Mr. Thomas Bradford, on the occasion of his son attaining his majority, had determined that the event should be befittingly celebrated, the employés of the firm of Messrs. Thomas Bradford and Co., from managers to office boys, all expressed a desire to show in some tangible way, however inadequately, the good feeling they entertained towards and the high opinion they had formed of the founder of the Crescent Iron Works. A committee was chosen from amongst the employés to consider in what way they could best accomplish their object. There was a concurrence of opinion in the executive that to honour the son was an evidence of respect and kindly feeling to the father, which he would not be slow to appreciate and acknowledge. They were not, as events subsequently demonstrated, mistaken in this conviction. Presents were purchased, congratulatory addresses drawn up, illuminated and framed, ready for presentation to Mr. William Litler Bradford. But Mr. Thomas Bradford was not overlooked. He was requested to sit for his portrait, and did so, to the evident pleasure of the committee. When invitations were issued to the 500 workpeople principally employed by the firm at the Crescent Ironworks to attend a banquet at Belle Vue, Manchester, much satisfaction was expressed, heightened, as it must have been, by the announcement that their wives and in some instances daughters could, if they were so disposed, enjoy Mr. Bradford's generous hospitality. Fully 600 persons were conveyed by special train from Cross-lane Station to Longsight early in the afternoon, where they were joined by many others who had travelled to the gardens by special vehicles. Shortly after four the company sat down to a capital spread in one of the large dining halls. At an elevated cross table were a few of Mr. Bradford's relatives and personal friends. Mr. Thomas Bradford occupied the chair, supported by many relatives and friends.

The President, giving a hearty welcome to all present, said:—Wednesday, the 19th Oct., was to me and Mrs. Bradford a day of joyfulness and thankfulness at our home. The cause of that great joy was that our only son, whose childhood, whose boyhood, whose youth had been one continued source of happiness to us, had, in answer to our prayers to Almighty God, been spared to grow up to manhood. No wonder, then, our rejoicing on that day. When we received congratulations one after another, and especially when we received congratulations through your committee, which you were good enough to send to my house, our cup of happiness was overflowing. (Cheers.) We had in some measure anticipated this day, and you all should have shared it with us if our home had been large enough to accommodate you. (Cheers.) But that was impossible. We then tried if we could not find a room large enough for you in Pendleton, for my desire was that it should be held in the township in which my works and house are situated, but one could not be found. This celebration is, to both Mrs. Bradford and myself, the greatest event of our lives next to our marriage. (Cheers.) We were anxious that every employé and his wife should be present, so that their enjoyment should be complete, and I am sure we are amply repaid in what we see before us. (Cheers.)

After an excellent dinner, the usual loyal toasts were honoured, followed by the "Health of the Clergy and Ministers," which was responded to by

The Rev. H. Sayers, who said:—When Mr. Bradford first went to live in his parish, he did not ask to what body of Christians he belonged, but what kind of a man he was, and he was told that he was a "thorough good man." He would tell them what puzzled him about Mr. Bradford. He was curious to know to what nationality he belonged. (Laughter.) He saw the large works at the Crescent, and came to the conclusion that there was a fine "back head" at the top of the department, and from that circumstance came to the decision that he was an Englishman. (Laughter.) But he heard that Mr. Bradford had a very long head, made his works pay when other people were losing money, and that whether trade was good or bad, he always kept his people about him and his works going. On hearing that he said, "This man must be a Scotchman." (Laughter.) Another circumstance happened which caused him to wonder whether Mr. Bradford was an Irishman. (Laughter.) But when he came to know him intimate, he found that he was born in Cheshire. The County of Chester might be proud of giving him birth. (Cheers.) After to-night they would call him a Lancashire man; and he congratulated Mr. Bradford, in the presence of them all, on his great success, and he rejoiced that his son's majority was being celebrated. (Cheers.) England would never go down so long as master and people exhibited towards each other such friendly relations as they had evidence of to-night. (Cheers.) Of late we had passed through troublous times of bad seasons and bad trade, but he hoped this year would be marked by prosperity. (Cheers.)

The toast of the evening, that of "The health of Mr. W. L. Bradford," was proposed by

Mr. John Deane (foreman fitter, and one of the oldest employés). He said: This is a great honour to which I never aspired, and one which ought certainly to have fallen into abler hands. But if the hands are weak and feeble, I feel sure that the toast could not have fallen to one that had a warmer and more sympathetic heart. I have known Mr. W. L. Bradford from his earliest infancy, and it has been with very great pleasure that I have seen his growth in stature and wisdom. (Hear, hear.) He has arrived at his majority under very favourable auspices, and I take this opportunity of wishing him "many happy returns." In every department of the works we have received him with open arms as our young master. (Hear, hear.) Let us render him cheerful, loving obedience, that things may go on harmoniously and prosperously. (Cheers.)

Mr. Giles (in company with Messrs. Griffiths, Nixon, Higson, and Thorpe) presented the appended address, which that gentleman read:—"From the Crescent Ironworks, Salford, and the Manchester and Liverpool branches.—To Mr. William Litler Bradford, Sandy Mount, Eccles Old-road, Pendleton.—Dear Sir,—We, the undersigned, representing the employés of Messrs. Thomas Bradford and Co., at the Crescent Ironworks, Salford, Victoria-avenue, Manchester, and 130, Bold-street, Liverpool, on the occasion of your attaining your majority, offer you our most hearty congratulations and best wishes for your future prosperity and happiness. As a token of our esteem and respect we beg your acceptance of the accompanying portrait of your father, Thomas Bradford, Esq., J.P., whose example we trust may cheer and guide you and be an incentive to you all your life long.—Yours most sincerely. Signed by eight." The address was written on vellum and illuminated.

Mr. Gosling next read the following address:—"From the London branch.—To William Litler Bradford, Esq., on the attainment of his majority, 19th October, 1881.—We, the employés of the London branch of Messrs. Thomas Bradford and Co., beg your acceptance of the accompanying silver casket as a token of our high esteem and regard, conveying therewith our hearty good wishes for your success and prosperity in the future. Signed by 29." This gift was a chased silver casket, specially designed by Mr. Gosling, the principal draughtsman of the firm. The cover is surmounted by the figure of Agriculture, and at each corner are figures emblamatic of Art, Science, Commerce, and Industry. The address was illuminated.

Miss Pettengill (who was joined by Miss Brunsden and Mr. Alfred Lake) read the following illuminated address:—"From Upper Norwood (London).—Mr. W. L. Bradford.—Dear Sir,—We, the employés of Thomas Bradford and Co., at the Laundry, Upper Norwood, offer you our sincere congratulations on the attainment of your majority. We desire your

acceptance of the accompanying cabinet as a slight expression of the respect and esteem in which you are held by all, and of our earnest desire that your future life may be happy and prosperous, and that you may be permitted many joyful returns of the day." The present consisted of a massive inlaid oak cabinet with elaborate fittings.

Mr. Hughes (Ireland) read the following address:—"Address to William Litler Bradford, Esq.—Dear Sir,—We beg to tender you our sincere congratulations on this the happy occasion of attaining your majority, and we hail the event with sincere satisfaction. We rejoice that your career opens amidst enthusiastic welcome and good wishes of the large circle which your father's integrity and successful career in life introduce you to. We pray that your worthy parents may live long to guide and assist you in the future as they have done in the past with their wise counsels, and to see their fondest wishes in your regard fully accomplished. A happy augury of the future may be drawn from hopes which your demeanour has already inspired. We trust the small token of respect which we herewith take the liberty of begging your acceptance of will remind you that in Ireland, as well as in every other portion of the globe where the name of Bradford is so honourably and universally known, will be deemed by you worthy of acceptance. On that journey of life you have now commenced we wish you a hearty God speed, and remain faithfully yours, (Signed) R. L. Hughes, George Hughes." This token of regard consisted of a clock in hog oak, with elaborately chased silver mountings and inscription.

Mr. William Catt read an address from persons formerly in the employ of Messrs. Bradford. This address was accompanied by a splendid gold pendant for watch chain.

There were numerous other presents from private friends.

Mr. W. L. Bradford, on rising to respond, was loudly cheered. He said: Ladies and Gentlemen,—Your great kindness has not altogether been unexpected by me. I have therefore to address a few words to you by way of thanks for your warm reception. I should imagine it a most difficult thing at any time to make a fit reply to one's own health, but it is much more difficult to address for the first time a large meeting where you have not only to respond on your own behalf, but to thank so many persons for their beautiful presents. Be assured I thank you for what I even value more than the presents—the kind expression contained in the addresses which accompany them. It is quite impossible for me to adequately thank you, but you will believe me when I tell you that I thank you with all my heart, and you will please imagine what I am unable to express. It is quite unnecessary for me to speak in terms of praise of your presents. Previously it has been my good fortune to have received presents from some of you, which I have taken as tributes to my father's efforts on your behalf. I trust that in the present case, without being presumptuous—considering that I have been associated with some of you for years—I may be able to take for myself some small portion of the great kindness you have shown this evening. (Hear, hear.) In conclusion I would wish to express a hope that the good understanding which has existed between us will ever continue. (Cheers.) I venture to affirm that the ladies, whom I also thank, may have exerted on my behalf that quiet influence which they possess, and which is more felt than seen. (Cheers.)

Mr. Bolton, of the Crescent Works, proposed the health of "Mr. and Mrs. Bradford." He said: It is with mingled feelings of diffidence and pleasure that I rise to propose this toast—diffidence as to my ability to do justice to it, and pleasure at the honour conferred on me. It must, I am sure, rejoice everyone present that Mr. and Mrs. Bradford this evening are permitted to see the realisation of their fondest hopes, and the consummation of a worthy ambition. (Hear, hear.) On the one hand they have the deep pleasure which only a parent can feel when a son, whose life and character are without reproach, arrives, after many cares and anxieties on his behalf, at the age of maturity, and, on the other hand, we see a business enterprise which, contemporaneously with that son, has risen and grown until it stands before us to-day a magnificent success. (Hear, hear.) It is exceedingly gratifying to every individual subscriber that the splendid portrait which has been presented this evening enables us not only to show our esteem and affection for Mr. Wm. Litler Bradford, but also to do honour to our worthy president, in whom we all recognise a public benefactor. Springing from the ranks, he has, by his inventive genius, great ability, and indomitable energy, created a manufacturing and commercial establishment which gives daily sustenance to hundreds of families, and whose productions have carried increased comforts into tens of thousands of households and various institutions throughout the civilised globe. (Cheers.) We feel also that this portrait will, like the scrip of a successful company, continue to rise in value as the years roll by, and a time will arrive (a far distant time, we hope), when the original, having paid the debt of nature, this portrait will become a priceless heirloom. (Hear, hear.) Of Mrs. Bradford I will not presume to say more than this, that she is one of those mothers of whom it is said, "Her children shall rise up and call her blessed." It will be a pleasure to Mr. Bradford, as well as to Mr. William Litler Bradford, to know that the subscriptions to the fund for the portrait were given by everyone, from the highest to the lowest, with a heartiness and equanimity which were unmistakable, and it was highly gratifying to the executive committee when they received a message from the workmen that if more funds were needed they would make a further effort. (Hear, hear.) I shall only echo the general sentiment of this assembly by giving expression to the hope that Mr. and Mrs. Bradford and their son may long remain what they are this evening—a happy and united family. (Cheers.)

Mr. Bolton read the following address:—"From the Crescent Ironworks, Salford, and the Manchester and Liverpool branches.—To Thomas Bradford, Esq., J.P., Sandy Mount, Eccles Old Road, Pendleton.—Dear Sir,—On the happy occasion of your son, Mr. William Litler Bradford, coming of age, we beg to offer you our hearty congratulations. We take the opportunity of expressing our fervent wishes that he may be a comfort and honour to Mrs. Bradford and yourself, and that you may both live to see him emulate your example and achieve as great a success. We beg your acceptance of this Album not only as a memento of the day, but also as a slight acknowledgment of the kindness and sympathy you have always shown us. Permit us also to wish Mrs. Bradford and yourself, under the blessing of Divine Providence, continued health and increasing happiness. And believe us, dear sir, on behalf of the employés at the Crescent Ironworks, Salford, Victoria Avenue, Manchester, and Bold-street, Liverpool.—Yours most sincerely. Signed by a committee of 20." The present consisted of a handsome album containing beautifully coloured portraits of Mr. Thos. Bradford, Mrs. Bradford, and Mr. William Litler Bradford, and the above address, illuminated on each page, followed by the autographs of the principal employés at Crescent Ironworks and the Manchester and Liverpool warehouses.

Mr. Barrett read the appended address:—"From the London branch.—To Thomas Bradford, Esq., J.P., Sandy Mount, Pendleton, Manchester.—Dear Sir,—As employés connected with the London branch of your business, we desire to convey to Mrs. Bradford and yourself our heartfelt congratulations on the attainment by your son, Mr. William Litler Bradford, of his majority. We pray that his future career may be one of unalloyed happiness and success, and that he may long enjoy your paternal love and guidance, and ever receive the blessing of the Almighty.—We are, dear sir, your faithful servants, Signed by 29." The address was framed and beautifully executed, and signed by the principal employés at the London office and warehouse.

Miss Pettengill, who was accompanied by Miss Brunsden and Mr. Alfred Lake, read an address of which the following is a copy:—"From Upper Norwood.—To Thomas Bradford, Esq.—Dear Sir,—We all feel that we cannot allow this day to pass over without expressing to yourself and Mrs. Bradford our participation in your joy. We are thankful that you have both been spared to see your son attain his majority, and we most sincerely trust that your home circle may remain unbroken for many years. On behalf of all employed at your Steam Laundry at Upper Norwood, London." The address, which was beautifully framed and executed, was signed by the manageress,

Miss Pettengill, for the employés at the steam laundry, Upper Norwood.

The President said:—I am sure you will quite understand I shall feel somewhat bewildered in having to reply to the many kind remarks made about me. My son has got over his difficulty very well, I think. (Hear. hear.) I thank you collectively for these tokens of regard and expressions of goodwill to me to-night. You all know me sufficiently well, better than anyone else, what my feelings are towards you. (Hear, hear.) I ask myself "Do I deserve this great consideration you have shown me, this great kindness? Have I done my duty to you so thoroughly that I can conscientiously feel that I am justified in receiving these presents at your hands?" Well, if I have so conducted myself as to be worthy of all the respect and consideration you have evinced, not only to myself but to my son, then I must thank God that he has so enabled me to walk rightly and justly before you. I have always desired to deal with every man fairly and every boy and girl in my employ just as if they were my own children. (Cheers.). I have endeavoured also so to guide and direct my business, and it has been to me a proud satisfaction to see it grow year by year, and more especially so with regard to Norwood. (Hear, hear.) I know I established a kindly feeling there among my workpeople during my residence in London. Some who entered my service as boys and girls, I have seen with pleasure grow up into men and women, and am gratified to see some of them present this evening. (Hear, hear.) During the past thirty years, as you all know, I have had a great deal of work to do. Hundreds of times I have gone home exhausted and weary, but in a few moments it has passed away, and there has gone on an unbroken period of happiness between myself and wife which it is my duty now to testify before her. (Cheers.) I could not have done all I have done had it not have been for her support. Now I must say a word of some of my old friends, some of whom were with me twenty years ago, when things were not so smooth as at present, and without whose help I should never have been able to have attained my present position. I could not have done it; I should have been fast many times. If I have wanted anything carrying out, any mechanical difficulty or whatever it might be, overcome, I always knew where, and to whom to go, and found them ready to help me. (Hear, hear.) The very best evidence that I have been able to carry on my business satisfactorily is that so large a number of my old employés join with me this evening in my happiness. It was ever my desire to do some good in the world; it was the dream of my youth and my early manhood to become not only a fellow-worker, but, if possible, a creator of some industrial development that should benefit mankind; and my dream has, I believe, been realised. (Cheers.)

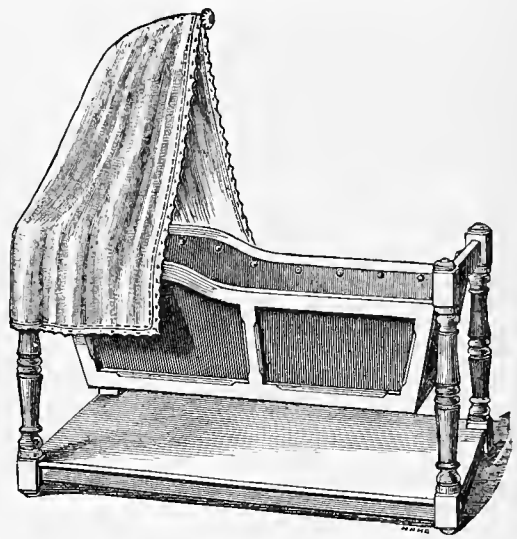
Mr. W. L. Dean proposed "Crescent Iron Works," and remarked that he felt proud to be considered one of their number; they were all fellow-workers in a firm occupying the proud position of being second to none in their way in the world. He sincerely trusted that the star of Crescent Iron-works might always be in the ascendant. (Cheers.) Mr. Brown, in supporting the toast, said it was one which would commend itself to all present. (Hear, hear.) Mr. Partington responded. He hoped that the works might grow "and the sun of prosperity shine upon it." (Hear, hear.) Mr. Giles said it was an exceedingly pleasant duty to reply to the toast. He hoped that every employé would do his utmost to increase the prosperity of the firm in the future, as they had striven to do in the past—a fact which he believed Mr. Bradford appreciated. (Cheers.)

Mr. Harrison proposed "Our Branch Establishments.' He observed that the toast was one of perhaps greater importance than would appear at first sight, inasmuch as many of them were aware that those branches were the great feeders of the Crescent Iron Works. Why of all others he had chosen to propose the toast, he was at a loss to conjecture, unless it was that he was and had been closely associated with them in the performance of his duties. If that were so, he could assure them he did it with the kindliest feeling, and he could testify to the unanimity and good understanding that had always existed between the works and the branches. (Hear, hear.) He sincerely trusted the good feeling might continue, and that they would always remember they were servants of the same firm. Mr. Barratt (London) responded. He said it was now looked upon "as a mark of civilisation when people possessed Bradford's washing machines." Mr. Nixon (Manchester), Mr. Higson (Liverpool), and Mr. Catt (Norwood), also responded for their respective establishments. The last-named gentleman, referring to the perfection of laundry machinery, said "Mr. Bradford would be known as one of the greatest sanitary reformers of the 19th century." (Cheers.)

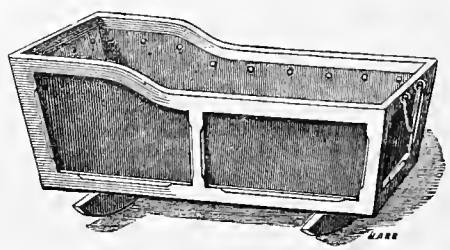
"The Visitors" having been proposed, and responded to by Alderman Davies, and "The Ladies" duly honoured, the company separated after a most enjoyable evening.

THE COMBINATION COT

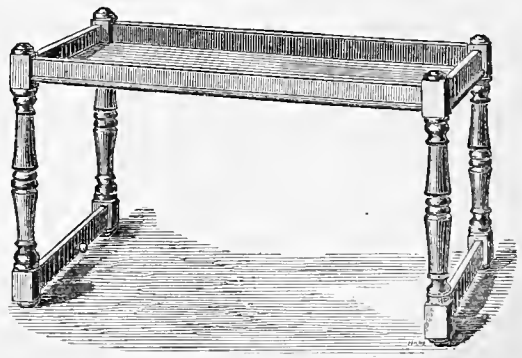
Mr. T. Hansell, of St. Albans, has just introduced a con-



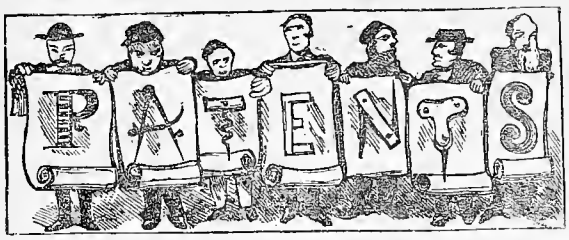
vertable cot, which forms also a basinett with movable rockers, and an invalid's table. Our three illustrations will give a very



good idea of this invention, which is highly recommended for durability, strength, elegance, and economy. The combination



cot has been exhibited at one or two exhibitions, where it has met with universal praise.



The following list has been compiled expressly for the "Journal of Domestic Appliances and Sewing Machine Gazette," by G. F. Redfern, *Patent Agent, 4, South Street, Finsbury, London, and at Paris and Brussels.*

APPLICATIONS FOR LETTERS PATENT:—

No. 4,426. H. J. Haddan—a communication from R. I. Creelman, of Georgetown, Ontario, Canada, for improvements in knitting machines. Dated October 11, 1881.

„ 4,430. T. T. Harrison, of Bristol, for improvements in bicycles. Dated October 11, 1881.

„ 4,431. H. E. Newton—a communication from J. Jorgensen, of Petersburg, Virginia, United States, for improvements in tables and cabinets for sewing machines and other machines and instruments. Dated October 11, 1881.

„ 4,434. A. M. Clark—a communication from S. N. Silver, of Auburn, and C. E. Page, of Biddeford, both in Maine, United States, for improvements in tricycles. Dated October 11, 1881.

„ 4,457. T. G. Young, of Penicuik, Midlothian, North Britain, for improvements in bleaching jute. Dated October 13, 1881.

„ 4,466. W. Dexter, of Nottingham, for improvements in warp or straight bar knitting machines, and in the fabric produced thereon. Dated October 13, 1881.

„ 4,467. J. H. Miles, of Birmingham, Perambulator and Bath Chair Manufacturer, for improvements in perambulators. Dated October 13, 1881.

„ 4,542. F. W. Eicke, of Beulah Hill, Norwood, London, Gentleman, for improvements in the construction of velocipedes. Dated October 18, 1881.

„ 4,548. S. Hall, of Harrington-street, Hampstead-road, London, for improvements in velocipedes. Dated October 18, 1881.

„ 4,554. M. H. Pearson, of Leeds, for improvements in sewing machines. Dated October 18, 1881.

„ 4,587. J. Dowling, of Jewin-street, London, Engineer and Machinist, for improvements in plaiting machines. Dated October 20, 1881.

„ 4,600. G. Singer, of Coventry, for improvements in velocipedes. Dated October 20, 1881.

„ 4,609. J. Court, of Brompton-road, London, for improved means or appliances for ventilating, heating, and cooling. Dated October 21, 1881.

„ 4,621. F. Wirth—a communication from P. Adt, 111, P. Adt, junior, J. B. Adt, and E. Adt, of Forbach, Germany, Ensheim, Germany, and Pont-à-Mousson, France, for an improved device to be used as a reel or spool for holding thread. Dated October 21, 1881.

„ 4,639. T. B. Giffen and J. Dold, both of Glasgow, for improvements in sewing machines. Dated October 22, 1881.

„ 4,663. E. P. Alexander—a communication from C. Martin, of Paris, Manufacturer of Gas Heating Apparatus, for improvements in burners for gas stoves for cooking and other purposes. Dated October 25, 1881.

„ 4,678. S. Leoni, of St. Paul-street, New North-road, London, Engineer, for improvements in apparatus for heating, cooking, and boiling water by gas. Dated October 26, 1881.

„ 4,710. O. Drey, of Manchester, for improvements in the manufacture of certain woven fabrics. Dated October 27, 1881.

„ 4,722. F. W. Jones, of Exeter, for improvements in and relating to velocipedes, part of which is applicable also to other purposes. Dated October 28, 1881.

„ 4,752. M. Bauer—a communication from P. Besté, Gentleman, of St. Denis, Seine, France, for improvements in apparatus for weaving or braiding hollow articles. Dated October 31, 1881.

„ 4,769. J. Deacon, of Birmingham, for improvements in mangles. Dated November 1, 1881.

„ 4,782. E. H. Smith, of New York, United States, for an improved method of, and machinery or apparatus for, sewing materials in the manufacture of sails, tents, and other heavy work. Dated November 1, 1881.

„ 4,817. L. A. Groth—a communication from R. Steiner, of Groz, Austria, for improvements in spooling apparatus for sewing machines. Dated Nov. 3, 1881.

„ 4,829. A. Archer, of Birmingham, Brassfounder, for improvements in tricycles and other velocipedes. Dated November 3, 1881.

„ 4,841. G. H. Brookbank, of Camden Town, London, for improvements in the construction of pianoforte actions. Dated November 4, 1881.

„ 4,846. O. McC. Chamberlain, of Faraday-road, Notting-hill, London, for improvements in pleating and frilling machines. Dated November 4, 1881.

„ 4,894. W. Harrison, of Portland-street, Manchester, Mechanic, for improvements in knitting machines. Dated November 8, 1881.

„ 4,901. R. E. Phillips, of Great George-street, Westminster, London, for improvements in the construction of velocipedes, partly applicable also to other purposes. Dated November 9, 1881.

„ 4,917. L. E. Broadbent, of Stamford-street, London, for improvements in the construction of bicycles, tricycles, and quadricycles. Dated November 9, 1881.

Letters Patent have been issued for the following:—

No. 1,814. W. Morgan-Brown—a communication from J. Reece, of Boston, Massachusetts, United States, for improvements in button-hole sewing machines. Dated April 27, 1881.

„ 1,860. J. Harrington, of Norman's-buildings, St. Luke's, London, for improvements in tricycles and other velocipedes. Dated April 29, 1881.

„ 1,871. A. G. Meeze, of Redhill, Surrey, and N. Salamon, of Holborn Viaduct, London, Sewing Machine Factor, for improvements in the construction and fitting of velocipedes. Dated April 30, 1881.

„ 1,878. M. McCallum, of Barrhead, Renfrewshire, North Britain, Engineer, for improvements in apparatus for finishing woven fabrics. Dated May 2, 1881.

„ 1,951. M. C. Denne, of Eastbourne, Sussex, and T. J. Denne, of Redhill, Surrey, for improvements in sewing machines for producing the "gauging" or "running" stitch. Dated May 4, 1881.

„ 2,145. W. R. Lake—a communication from D. H. Campbell, of Pawtucket, Rhode Island, United States, for improvements in wax thread sewing machines. Dated May 17, 1881.

„ 2,161. A. Burdess, of Coventry, for improvements in driving mechanism for tricycles. Dated May 18, 1881.

„ 2,177. E. Blinkhorn and F. A. C. Groebert—a communication from H. Axmann, of Vienna, for an improved construction of stocking and sock suspender clasps. Dated May 18, 1881.

„ 2,183. C. Pieper—a communication from J. Stern, Merchant, of St. Petersburg, Russia, for improvements in lock-stitch sewing machines. Dated May 19, 1881.

„ 2,202. E. Marshall, of Birmingham, Mechanical Engineer, for improvements in bicycles, tricycles, and other velocipedes. Dated May 19, 1881.

„ 2,258. H. J. Haddon—a communication from J. A. McKenzie, of Galesbury, Illinois, United States, for improvements in tricycles. Dated May 24, 1881.

„ 2,546. H. J. Haddon—a communication from M. J. Lecoeur, of Darnetal, France, for improvements in sewing machine gearing. Dated June 11, 1881.

„ 3,272. J. H. Johnston—a communication from W. Rennyson, of Norris Town, Pennsylvania, United States, for improvements in bicycles. Dated July 26, 1881.

„ 3,522. A. Paget, of Loughborough, Leicestershire, for improvements in knitting machinery. Dated Aug. 13, 1881.

„ 3,590. C. A. Barlow—a communication from J. Halter, of Rebstein, Switzerland, for improvements in machine embroidery, and in the process and apparatus for manufacturing the same. Dated August 17, 1881.

„ 3,637. W. Webster, of San Francisco, California, United States, for improvements in sewing machines for stitching sacks, bags, ships' sails, carpets, and for other like purposes. Dated August 20, 1881.

„ 3,805. J. Humpage, of Bristol, engineer and machinist, for improvements in velocipedes. Dated September 1, 1881.

PATENTS WHICH HAVE BECOME VOID :—

No. 3,901. A. H. Lee, of Cambridge, Engineer, for improvements in bicycle stands for holding, cleaning, adjusting, and tightening the bearings and cones of bicycles, and for holding bicycles in a vertical position. Dated October 3, 1878.

„ 3,934. E. T. Hughes—a communication from N. Dominique, of Boulevard Saint Denis, Paris, for improvements in embroidery machines. Dated October 7, 1878.

„ 3,943. J. W. Hill, of Kimbolton-road, Bedford, Civil Engineer, for improvements in apparatus for obtaining motive power for use in driving velocipedes, sewing and other machinery. Dated October, 1878.

„ 3,944. H. B. Fox and J. Gamlin, both of Birkenhead, Cheshire, for improvements in and appertaining to machines or apparatus for cleaning knives and other similar articles, and in the material to be used therewith. Dated October 8, 1881.

„ 4,134. A. Anderson, Manager of the Singer Manufacturing Company's Works, Glasgow, for improvements in sewing machines. Dated October 17, 1878.

4,246. H. W. Whitehead, of Holbeck, Leeds, Machine and Tool Maker, for improvements in machinery for spinning and laying fibrous substances. Dated October 23, 1878.

„ 4,359. E. Slater, of Burnley, Spinning Master, for improvements in machinery for spinning and doubling fibres. Dated October 29, 1878.

„ 4,422. F. D. Poulter—a communication from W. H. McNary, of Brooklyn, New York, United States, for improvements in knitting machinery. Dated Nov. 1, 1878.

„ 4,432. W. E. Gedge—a communication from P. Domercq, of Montpellier, France, Manufacturer, for an improved portable stove and camp-cooking apparatus. Dated November 2, 1878.

„ 3,454. F. Stickbury, of Leyton, Essex, for an improved means for heating box irons. Dated October 9, 1874.

Specifications Published During the Month.

Postage 1*d. each extra.*

			s.	d.
No.	500.	W. E. Gedge, sewing and embroidering machines	0	8
„	533.	W. Mickelwright and A. G. Gladwyn, bicycles, tricycles, &c.	0	6
„	747.	H. Defty, stoves	0	2
„	830.	H. Kinder, tricycles...	0	2
„	837.	F. Caldwell, machinery for manufacture of knitted fabrics	0	2
„	1,106.	W. J. Ford, stop mechanism for circular knitting machines...	0	2
„	1,131.	S. V. Wheatley, skates	0	2
„	1,164.	B. Hunt, lock-stitch sewing machines	0	8
„	1,180.	T. F. Burgess, needles and needle slides or bars for sewing machines...	0	2
„	1,187.	J. I. Warman, tricycles, &c.	0	2
„	1,211.	H. Mills, button-hole sewing machines... ...	0	6
„	1,219.	T. Tongue and T. E. Bladon, lamps for bicycles, &c.	0	2
„	1,234.	J. Southgate, W. Smith, and R. Liddell, apparatus for driving and increasing speed of bicycles, tricycles, &c.	0	2
„	1,264.	W. R. Lake, velocipede	0	2
„	1,307.	T. Wilson, machines or apparatus for washing clothes	0	2
„	1,313.	J. Harrington, bicycles and tricycles	0	2
„	1,314.	G. L. Shorland, ventilating apparatus	0	2
„	1,318.	C. T. Bastand, sewing machines...	0	6
„	1,344.	E. R. Settle, velocipedes	0	2
„	1,377.	W. Sachs, airing gussets, clothes, &c.	0	6
„	1,402.	J. Kettle, stands or supports for supporting costumes	0	6
„	1,410.	G. Collier, steam washing machines	0	8
„	1,431.	W. Morgan Brown, knitting machinery ...	0	10
„	1,457.	R. H. Reeves, ventilating apparatus	0	6
„	1,498.	R. Kerr, cabinets for containing assortments of thread, spools, &c.	0	6
„	1,501.	R. H. Bishop and H. F. Hales, skates	0	2
„	2,508.	J. Fleurmann, apparatus for raising and supporting ladies dresses	0	2
„	1,548.	J. W. Ramsden, sewing machines	1	0
„	3,269.	J. Bradley, circular knitting machines	0	10

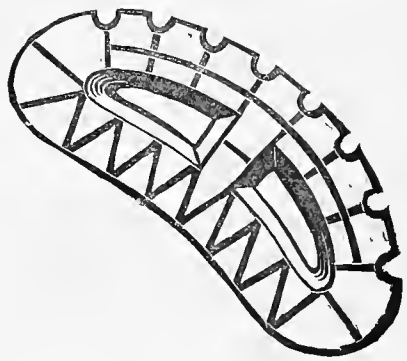
McDONALD'S BOOT RACKS.

No house can be said to be tidy if boots are allowed to lay about in glorious disorder. A most convenient and useful rack on which to hang these articles is that invented by Mr.

McDonald, of which we give an illustration. The address of the manufacturer is King-street, Cheapside, E.C. Domestic machinery dealers will find this a profitable article to sell.

FIELDHOUSE'S PATENT BOOT PROTECTORS.

Mr. J. Fieldhouse, of Keighley, Yorks, has invented a novel kind of boot protector. It possesses great durability, is easy



to fix, and comfortable to wear. The protector, of which we give an illustration, is fixed on to any part of the boot that is worn.

PROCTOR'S PATENT CINDER BUCKET.

This little article—consisting of a riddle and bucket combined—forms a very simple and cheap contrivance for sifting cinders. The ashes that have fallen from the grate are placed in the bucket, and then carried to the dust bin. A slight shaking sifts them ; the catch is then unloosened, and the dirt thrown out from the bottom part. The bucket is strongly made of galvanised iron, and will stand any amount of wear. The manufacturer is Mr. Proctor, of Call-lane, Leeds.

A woman may offer in excuse for her red nose that she laces too tightly, but what shall a man say? Oh, he can offer the same excuse. He also gets too "tightly" by so-lacing himself.

REVIEWS.

We have received yet another contribution from Mr. Platt's prolific pen, being a companion volume to the series of business essays already published by him, and entitled respectively "Business," "Morality," "Money," and "Life." Each of these has in turn been exhaustively dealt with in our pages, and we now propose to glance for a little while at the new volume, which will certainly do much to sustain the reputation Mr. Platt has already gained as a writer of terse, compact, business-like books for business men—books that go straight to the heart of the subject under discussion, and deal with it in an earnest, business-like way. Mr. Platt is no *dilletante*—he has plenty of other things to attend to beside writing books—and he therefore applies himself vigorously to his task, and gets through it in as prompt and thorough a manner as possible.

Fair Trade and Free Trade being one of the burning topics of the day, it is but natural that Mr. Platt should devote so considerable a portion of this volume to its discussion as one of the great economic questions of the time. He is a thorough-going, uncompromising free-trader, and he can give good reasons for the faith that is in him. He says:—

"As regards the value of 'free trade' as a developer of trade, of the power to 'buy and sell:' in 1793 the imports into the United Kingdom were valued at £17,850,000; in 1815 they were valued at £32,987,000; in 1853 they had risen, through the adoption of our free trade policy, to £123,099,000. In 1870 they were £305,000,000; in 1880, £414,000,000. Our exports in 1793 were £18,486,000; in 1815 they were £58,629,000; but, thanks to free trade, in 1853 they were £242,000,000; in 1880, £278,000,000. For the six months ending June, 1881, the imports amounted to £198,813,000—a decrease of £12,000,000, as compared with the corresponding period of 1880—a decrease very evenly distributed, and partly accounted for by a fall in prices. 'Prices' have a marked effect on the totals. For the six months ending June, 1881, the total value exported has been £109,308,000—an *increase* of £1,675,000 only, as compared with the corresponding period a year ago, but denoting a *greater real increase*, allowing for the fall in prices which has occurred. So you will perceive that we are not yet ruined; our trade is not gradually, but surely, declining; but, in spite of 'bounties' and 'prohibitory tariffs,' our goods find their way into those countries that try to shut them out. The nation, as the individual, must accept the inevitable. In the foreign, as the home trade, the struggle will be keener. A few years ago, any new policy in trade was ridiculed by *all*, and the fortune of the innovators made by the contemptuous remarks that 'advertised' their opponents' system; but now anything fresh is at *once* imitated by some. Abroad we had no opponents; now, by fair means or foul, other nations are making for themselves, and as their capital increases, they will manufacture more and more."

And again, referring to the state of our commerce and manufacturers before the introduction of Free Trade:—

"Those who ask for 'reciprocity' and 'retaliation' should look over our tariffs before 1842; think of the vast benefit a really wise statesman, adhering to economical laws, is able to effect; the godsend in 1846 these reductions, and others on soap, candles, boots and shoes, seeds, butter, cheese, hops, &c., must have been to our forefathers, when, in 1846, the duties on all kinds of meat and on live animals were repealed; but more especially that great boon of reducing the duties on corn to a low sliding scale for three years, to be followed in 1849 by a nominal duty of one shilling a quarter upon grain of all kinds. And with what result? A most extraordinary financial success; and in a year when a calamity of the heaviest nature had fallen upon the country—'The Irish famine.' The reaction from deficiency to surplus in the finance was due to the new system of commercial and financial policy adopted by Sir Robert Peel—a policy which aided, instead of counteracting, the effects of the blessings of Providence. It was 'free trade' replacing 'protection;' it was freedom of action against the tyranny of arrogant duty collectors. It was right conquering wrong; it was the saving of the commonwealth; as, had the change not been made before the famine of 1846 and the panic of 1847, a revolution was inevitable."

And again he says elsewhere:—

"Protection in every shape or form is a false system of economy. Men should be free to buy in the cheapest and sell in the dearest markets they can find; that is to say, every man has a right, without being hindered by the State, to get all he can for his money, and to get all the money he can for his goods. Free trade enables a man to get in exchange for his money, or goods, a greater quantity, the greatest quantity possible, of the goods of other nations. It leaves nature's law free to supply us abundantly from other countries with what we have occasion for, in exchange for our goods. Free trade means the getting from other people the maximum of theirs for the minimum of our own; the making those things we can produce cheaper than others, and taking in exchange those articles they can make or produce cheaper than ourselves. Free trade means the good of the many, that universal opulence, so far as can be done by wise arrangements for the distribution of commodities, which benefits all and extends itself to the lowest ranks of the people—to all, in fact, as all are consumers. So it helps in the most thorough manner to diffuse a general plenty through all the different ranks of society. To refuse to allow the goods of a country to come in here free because they will not allow us to go into their country free, is to cut off one's nose to avenge one's face. It means, because you are stupid enough to buy goods in the *dearest* way, we will, although we know better, copy your foolish example. Because we cannot sell our goods without restriction, is no reason why the power to buy by us should not be free. If we really understood what 'protection' is, we should not only have *all* trade free as the air we breathe, but abolish all monopolies of every kind. Protection means the benefit of a class at the expense of the public. In feudal times this system tended directly to disturb the internal arrangements of society, by obstructing the free circulation of labour and of stock, from employment to employment, and from place to place. The false system which is still so prevalent had for its professed object the regulation of commercial intercourse between different nations, and took its rise from the prejudices, or, rather, from the interested views, of mercantile speculators. This is self-evident, if we consider the two expedients held out by them for the 'benefit of the nation'—viz., by drawbacks, bounties, &c., to encourage exportation, and, by levying duties, to put restraints upon importation. They propose to benefit the nation by stopping goods from flowing in as they naturally would, and by enhancing the prices thereof; and to benefit the nation by giving bounties and advantages to speculators, that they might supply at lower prices, or be able to compete in foreign markets, by subsidies drawn out of their fellow-citizens' pockets. Protection in any form, whether it be reciprocity, retaliation, or the latest idea of 'fair trade,' is a restraint upon the 'freedom of trade,' and must be prejudicial to the progress and wealth of the nation which imposes it, and is only understandable through the ignorance of the people and the jealousy of commerce."

Mr. Platt discusses at some length the bearings of the French treaty, and he deals with the advocates of retaliation in the following fashion:—

"We are asked to shut out goods from France and other countries by putting on duties, unless France and the other countries admit our goods duty free. The exclusion of French goods from England would be a loss of profit to the French manufacturers, but—and here's the rub—it would be a loss to the English consumer, from the higher price he would have to pay, when he thus, by his 'statesmanlike' action, debars himself from nature's remedy, 'competition,' and leaves himself at the mercy of the home market, which would alone remain open to him. This is the action of 'all duties;' they counteract the operation of nature's arrangements to bring prices down to the lowest; they are an artificial impediment put up by selfish men to the Creator's liberal supply of good things for all men. The action of duties is to enhance prices; that is to say, to limit the use to the privileged few, of that which God, in His bounty, intended to reach all. Stripped bare, and viewed in their hideous nakedness, protection, reciprocity, retaliation, 'fair trade,' mean putting a burden

upon all consumers, putting a tax upon, taking out of the pockets of the majority a something to prop up in an artificial and 'unnatural' manner an industry by the minority that, left alone, cannot sustain itself—*it is not worth, in fact, in the open market of the world, what it has cost to produce.* If this be true, it is in defiance of all economic laws, it is in defiance of what any individual can do long without becoming bankrupt. It follows, therefore, inevitably that if followed by nations, it is equally unwise economically, and should be opposed with heart and soul by all patriots and statesmen. A nation of free traders can only make a treaty by a sacrifice of 'principle.' We should say to all nations: 'Our ports are open; send your goods here free of all restraints or duties; we think it right that our people should buy *all* things in the cheapest market; we believe, also, that, if it be to your advantage, the law of self-interest is so strong in the human mind, you will, for your own benefit, buy of us such goods as we can produce cheaper than yourselves.' A dignified policy, based upon a belief in 'principle,' would do more to make other nations follow the free trade policy than the unwise threat of 'war in trade' by retaliation, or, by 'threatening to *tax ourselves*,' to punish other people. Other nations may be excused if, in their ignorance, they adhere to a policy of which we have seen the folly; but for us to imitate their example, to inflict a burden upon ourselves as consumers, for the sole purpose of doing others an injury, is very singular and illogical conduct. Others have suggested 'bribes,' 'promises'—bargaining inconsistent with our position as a free trade country, degrading us to the level of a huckster. There is only one reason for lowering the duties on French wines, or any other goods; we ought to do so because we wish to benefit our own people as consumers, as buyers of these articles. Let us trust to 'God and the right;' believe in the reality of free trade, as God's wish and law for our benefit; look facts in the face; give up all treaties; reduce and abolish duties for our own interest: cease once for all in the attempt to coax, trick, persuade, or threaten our neighbours into a doctrine which they will not accept, and which we are practically denying by the very means which we are using to make it pass current."

On the burning question of the day—Ireland and the Irish—Mr. Platt has some very suggestive words, which deserve to be deeply and thoughtfully studied by all who desire to see the sister country contented and happy, as she ought to be, and might be, if she was only true to herself. No doubt such remarks as the following are not very palatable; but they are very, very true:—

"What has been the ruin of Ireland? A perpetual childishness that compels the Irishman to be ever a Government nursling, a priest's slave, the prey of agitators. There can be no progress, nor amelioration of the miseries of that unfortunate people, until they can walk alone. To do this they must unlearn the religion of the priests and of Communists; and, above all, they must recognise that their 'true friends' are those in power who compel them to obey the law, not from fear, but from a respect for the rights of property and the sacredness of life. Once they feel themselves 'men' they will look with disgust on the 'paternal government' that made contracts for them; they will cease to be slaves, and become 'free men,' determined to uphold and maintain the right of 'every man' to make his own contract in buying and selling, and wise enough to see that, let the bargain be good, bad, or indifferent, as an 'honest' man, having made it, he is bound to fulfil it. Government valuation, courts of arbitration, compensation for being evicted, for being turned out of a man's house because you have failed to pay the rent for it—all such schemes are ruinous to any country, undermining the sacredness of contracts, the rights of property, the freedom of individuals. Contrast Scotland with Ireland; the one so progressive, the other so stationary or retrogressive. Why? Because the one is a child, always under the thumb of the 'priest,' the 'Government,' or the 'demagogue,' and, like a child, wanting the 'impossible' something realised by some one else, and, failing this, listening to those who advise him not to pay others their due; whilst the others are men, who agree with their landlord, and fix their own price, and, having made a contract, abide by it. Capital and enterprise push on the one and hold aloof from the other. In the Scotch we have a people prosperous, contented, loyal, and law-loving; and the condition of the country as it is, if contrasted with what it was a hundred years ago, exhibits a progress that is almost incredible. But they understand the rights of being 'free men;' they have too much sense to think that man can, by his 'law,' put aside God's law of supply and demand; they know the danger of 'paternal government;' they prefer being self-reliant; they are able and willing to comprehend the liability of manhood; they refuse with indignation being protected by the State; they are men, and know it, and reject with scorn the 'State protection' that would keep them a government nursling."

The chief value of Mr. Platt's book, however, to our readers, will be in those portions wherein he seeks to apply two economic principles to the daily transactions of life, whether in the home or the business. Thus he tells us in the commencement of his book that, "economy means frugality in general, from the government of the universe to the management of the kitchen. Popularly, it is considered, in relation to the household, domestic. But it has reference to everything where thrift can be exercised. We can be economical or the reverse in the management of household or pecuniary affairs, private or public—we are thrifty or prodigal in our household or national system—as we do or do not thoughtfully adopt our means to the end we have in view. Economy means the saving of waste and avoiding unnecessary expense in the management of the nation, the warehouse, or the home. 'Economy' has a horror of the credit system, and its twin brother, debt—that curse of the middle and upper classes of society. I would have put prominently in every house, 'Owe no man anything.' That nation must be wealthy whose people have the moral courage to say, 'I can't afford it; I *will* live within my means; I will be independent.' Do not teach 'economy' as if it meant the mere saving of money, but as the science that inculcates the necessity and wisdom of making the best possible administration of our time, talents, labour, and money combined. The present system of show, with its inevitable accompaniment, sham, and getting money by any means to support it, is degrading to humanity. We want in its place a system that will teach 'integrity' as a necessity, punctuality and method as a rule, forethought and thrift as a habit. Too many think that the principal happiness in this world is to 'spend money.' To check this, in training the young, habits of thrift should be inculated; every boy and girl should be taught to manage with frugality, cautioned against the dangerous habit of loss by waste; to be prudent in expenditure, beginning with their few pence; taught to save a *little* always, so that it gets into their nature, and it becomes part of their character, a settled habit. Political economy means the internal, and more especially the pecuniary, management of any undertaking, corporation, or state; it is the science that teaches us how best to develop the resources of the nation—the science of how to develop, with the most beneficial result, the resources of the country; how to use the wealth or capital of the country in the way best calculated to cause its increase; how to cause all articles of consumption to be distributed from producers to consumers in the most economical manner; how to collect the revenue that is essential to carry on the Government of the nation the most judiciously; to cause, briefly, in all things throughout the country the judicious expenditure of money, time, labour, with the least possible waste, by the nation or the individual. Economy is the 'art of using' what we have mentally, physically, monetarily, to secure the best possible result, calculating how to economise time, to use what we have with prudence, to expend with frugality—the great secret of success, the essential condition for an honest, a happy life, knowing how to 'economise our income.' Who teaches the people the art of Economy? In what school or home are the young trained to be economical? Why is it that this science of science is neglected? Why is it that we act as if this difficult task of managing our pecuniary concerns with a wise frugality—making a prudent and judicious use of our money—the habits of thrift necessary to acquire or save property—the being careful, so as to economise in all things, and, by so doing, grow rich in health, happiness, and wealth—is a study neglected, as if the gods would endow us with the power to secure the result we all want instinctively? It is because men do not think. My books are written with the hope that a few of my readers will see the

necessity of so doing; and in time, stern necessity, the competition within and without the nation, will compel the people to see that to manage the affairs of a nation, a warehouse, or a home, we must understand political, social, and domestic economy; we must learn the laws of acquiring and distributing wealth. The management of the nation, the shop, the home, must give evidence of a careful economy; our economy must be sincere."

Upon the question of cash and credit, Mr. Platt has already discoursed in his previous books, notably in "Business" and "Money," and in the present work he again returns to the subject. Speaking of the Co-operative Stores, he says that in consequence of the credit system "prices got so high that a large class with fixed incomes were compelled to do with fewer articles, or, by co-operating together, to buy wholesale quantities, and be their own distributors. This was the origin of the Civil Service and the Army and Navy Stores; and to their efforts all cash purchasers are much indebted. These two societies have a large and special body of supporters, and will, no doubt, maintain their position, but, so far as society is concerned, their mission is over. The large sums of money spent by the various societies in starting the same, the expensive system of management by a board of directors, secretary, the loss of time in getting what you want, through the absurd, vexatious, and costly 'red-tape' system of details (some of the societies search their employés before they let them leave at night—a most degrading practice that no man should put up with), and the having to trust the buying to inexperienced and unprincipled men have caused society after society to fail in the most disgraceful manner—in many cases the share capital squandered, and large sums owing to creditors, within the space of twelve months or two years. Tradesmen now are beginning to see what the real issue was—viz., that cash buyers were only trying to get their rights, and to buy cheaper than those who take credit; and if they read the lesson of the past few years rightly they will not be tempted by the failure of a few societies to think of keeping to the old system, but will at once resolve to tempt *all* buyers to pay cash. Give credit if they will still have it, and charge for it, but cease to rob Peter to pay for Paul. If any one has to pay extra, let it be the 'credit buyer.' Let your prices to this 'reckless' class be fully equal to cover the losses that are inevitable from people who 'live in debt,' and so make them sick of such a costly method of living. Do not risk losing a cash supporter, however small he may be, but offer him willingly and thankfully the best value for his ready money you are able to give."

Mr. Platt views with considerable apprehension the aggregation of capital in the hands of a few. He thinks—

"The real salvation of society would be an increase of the class of small capitalists. No man with any property will join in the cry for a division of goods. By encouraging thrift and industry, we take the surest means of checking the schemes of agitators. Everything should be done that can be done to check the action of those who doubt the right of individual ownership; all schemes for the confiscation of capital should be considered and punished by the law as conspiracies to defraud, to rob. These men are the highwaymen of the nineteenth century, without the highwayman's courage, for they did the work themselves, while these incite to rob, and live by the spoil."

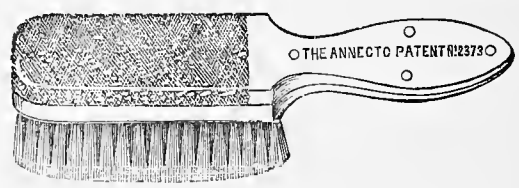
We have quoted thus largely from the book, because we believe the views held by Mr. Platt on these matters are sound and just, and we should like to see every one of our readers in possession of a copy of this really useful and instructive business manual. The commercial classes sadly stand in need of being educated in even the most elementary principles of commerce, and no teacher is so fitted for the task as one of themselves. We are glad to note that Mr. Platt has yet another work of the same kind in preparation, which will prove a fitting sequel to the one now under consideration. He says in his concluding chapter:—

"In 'Economy' my object has been to get men to have faith in 'principles,' the right of the individual to be free to make his own contract, the wisdom of leaving the prices of all articles to the Creator's laws of supply and demand, the imperative necessity of England's rigid adherence to 'free trade'—the basis of all economy—as by its action nations become wealthy, and by its action alone will mankind eventually become one brotherhood, each working for the other; having at last realised the great truth that the doing to others as we would be done by, is the wisest policy that any individual can follow. I have endeavoured to show that 'economy' of rescources, obtaining the maximum of result from the minimum of means, is the essential point, the foundation-stone upon which the Divine arrangement of the universe is based; therefore, I have argued that man's policy should be in harmony therewith, and based upon the same adherence to sound economic laws. Economy has been generally treated of; also Political Economy; and under 'Free Trade' is pointed out how we suffered in the past, how many other nations are suffering in the present, and how we should again suffer if we returned by reciprocity, 'retaliation,' 'fair trade,' or by any deviation from the natural laws of free trade. In 'Economy' there are many phases of the subject I have not been able to touch upon; so I purpose in my next book, 'Progress,' which will be ready by July 1st, 1882, to treat of Causality, Acquisitiveness, Capital, Free Labour, Employés, Technical Education, Distribution, Progress. 'Economy' has been written to prove the wisdom of our ancestors in opening our ports free to all, in freeing above a thousand articles from duty, and thereby, so far as the action of the Government is concerned, letting the consumer get all articles at the lowest price the laws of supply and demand and competition will enable him to do. In 'Progress' my object will be to tell the present generation that the great need of the times is a reform of our system of production and distribution."

We hope Mr. Platt will find time to add many more volumes to the interesting series which he has already written, and that they will find their way into every home and counting-house.

THE PATENT ANNECTO NAIL BRUSH.

Why should not the back of a nail brush be made so that it is of some assistance in cleansing the hands as well as the bristle portion of the same? Little hair brushes for the pocket have long had their backs converted into a mirror; pocket-knives have every conceivable article of assistance to the toilet and other purposes attached to them that they can possibly carry. Why, then, should not a nail brush have its back covered with pumice-stone? We think it an excellent idea.



Very few travellers think of carrying a piece of pumice-stone about with them, and would gladly welcome the brush to remove ink and other stains from their fingers. And in the house it is equally as serviceable, the pumice-stone being far better to use in that form than in the old-fashioned lump of most irregular outline. The brush instantly cleans and makes the skin soft and delicate. The manufacturers of this article are Messrs. F. W. Lotz and Co., of 31, Barbican, London. We recommend it to the attention of our readers. It being novel, it will sell well.

"It's sot you are, winter or summer," said the snappish wife to her drunken husband. "And it's scold you are, summer or winter," he replied, with a malicious grin.

A Highland gentleman, on the point of starting for the United States, left his purse, containing a hundred pounds, at the railway station. On his return to his native town the purse was brought to him by a clerk, who expected a slight recognition. The laird took the purse and counted the money, and then looked inquiringly at the clerk, who said in astonishment, "Isn't it right, sir?" "Richt? No," was the quick response. "Where's the interest?"

SPECIAL FREE ISSUE

OF THE

JOURNAL OF DOMESTIC APPLIANCES

AND

SEWING MACHINE GAZETTE,

JANUARY 1st, 1882.

On January 1st, 1882, a SPECIAL FREE ISSUE of this Journal will be made, and copies of the same will be gratuitously sent to every Hospital, Public School and Hotel in the United Kingdom; where, of course, every description of Domestic appliance is largely used. Copies will be also sent to Ironmongers, Domestic Machinery Dealers, Sewing Machine Agents, Co-Operative Stores and Merchant Shippers in England, Scotland and Ireland.

On the 15th of January a Second Issue will be published (on thin paper), which will be mailed to Ironmongers and others in Australia, New Zealand and the Cape.

Manufacturers of Gas and Oil Cooking and Warming Stoves, Washing Machines, Knife Cleaners, Mincing Machines, Lamps, Sewing Machines, Filters, Carpet Sweeping Machines, and of every article for the promotion of health or comfort in the dwelling, will find this SPECIAL ISSUE unequalled as a medium for Advertising. A few pages will be reserved for Advertisements, the tariff for which, to include both Home and Colonial Issues, will be found below. We invite Manufacturers to submit for our inspection, any novelties they may be about to place on the market. The same will be carefully examined and noticed.

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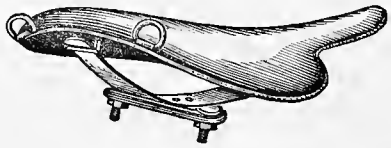

C. D. Vesey, Esq., who won the late Tricycle Championship, used one of WOOLLEY'S PATENT SADDLES. He says: "I was highly delighted with it; never once during the 50 miles ride did I feel the *slightest* of the *rough roads*."

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MANUFACTURERS OF
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WANTED, Situation as MANAGER of a Sewing Machine Depôt; age 31; married; first-rate references; two years in last situation. A total abstainer and member of Guaran tee Society.—A. S. Lynch, 20, Fortnam-road, Upper Holloway, N.

JOURNAL OF DOMESTIC APPLIANCES
AND
Sewing Machine Gazette

IS it possible to rid London of its greatest enemy—smoke? This is the question which for sometime past has been uppermost in the thoughts of many gentlemen who are well-known to the public as leaders of sanitary reform. They have not let their ideas concerning it remain dormant; and believing that the most practical way to fight this enemy—smoke—was to place before the public the best inventions in smokeless appliances for warming the house and for cooking food, they organised an exhibition of such articles at Kensington, which was opened yesterday with considerable *éclat*. In our next issue we shall minutely describe the whole of the exhibits, which at present we have only had time to scan. Many of them, which are worthy of great praise, rely very considerably on the help of gas, and the consuming of coke, oil, and anthracite coal. There is yet great scope for invention in this department of household appliances, and the exhi-

bition is a step in the right direction. We hope it may be well patronised by the public, on whom the success of all exhibitions depends, and that one day our air may be as clear and pure as that of other continental cities, so that, as Lord Lorne expressed it in his speech yesterday, roses may again be seen blooming in Kensington Gardens.

One of the most pleasant meetings of employers and employed it has been our lot to record, was that which occurred at Bellevue, Manchester, to commemorate the "passing of youth to manhood," of Mr. William Litler Bradford, and of which a full report will be found in another portion of this paper. Not only were the workmen invited to the banquet provided for them by Messrs. Bradford and Co., but they were also permitted to be accompanied by their wives. Mr. William Litler Bradford was the recipient of many valuable presents from employés, friends, and even persons who had some time quitted the service of this firm. The testimonial of the latter, who must give out of pure esteem, shows very clearly that Messrs. Bradford know how to treat their employés, so that they command their respect not only while they are in their service, but after they have left their employ. Mr. William Litler Bradford, in returning thanks—always the most difficult thing to do—made a very manly speech, and in a few well chosen words clearly expressed his sincere gratitude to the assembly for their good feeling towards him.

OUR ILLUSTRATED SUPPLEMENT.

We present as this month's supplement illustrations of some novelties in oil cooking and heating stoves and lamps. The manufacturers are Messrs. Wright and Butler, of Birmingham.

PROPOSED NEW SINGER WOODWORK FACTORY.

It is said to be finally decided that the woodwork factory of the Singer Manufacturing Company at South Bend, Indiana, is to be removed from that place, where it has been for several years past, to Cairo, Illinois. The reasons assigned for the change are that nine acres to which they are confined are insufficient for the proper conduct of the business. At Cairo there will be plenty of room and ample facilities, for the company owns eighteen square miles of forest land adjoining the city, which is also within easy reach of the walnut timber lands by means of the Ohio, Cumberland, Mississippi, Tennessee, and Missouri Rivers, so that in the matter of transportation alone a saving of ten dollars can be effected on every thousand feet of lumber purchased. This being also a crossing point for seven different railroads, the Singer Company will be able to forward their cabinet ware with despatch and at small expense to any part of the United States; in fact, they will have ample facilities, either by water or rail. The new works, it is proposed, will be located in the northern portion of the City of Cairo, where grounds have been purchased for the purpose, upon which it is proposed to erect the largest and most complete cabinet factory in the world. The total area covered by the grounds will be about twenty-five acres, with a river frontage of three hundred and sixty-six feet. The plans of the new works are already drawn up. They consist of a series of twelve dry kilns, each of which is to be eighty feet long and fifty-five feet wide, equal to one kiln 960 by 660, with about a million feet of storage capacity. They will be placed at convenient distances from the river front, so that the lumber received by rail or water can be taken directly from the boats or cars to the kilns. The next building adjoining the kilns will be the boiler-house, which will in the aggregate contain eight hundred horse-power, each boiler containing one hundred and fifty horse-power. Beyond the boiler-house will be built five buildings, seventy-five feet apart, each three stories high, sixty feet wide, and five hundred feet long. The first of these five buildings will contain the machinery; the second the stock ready for putting together; the third will be the cabinet factory for putting the stock together; the fourth will be the finishing department, and the fifth the storage department for the finished cabinets, whence they will be shipped all over the world. These buildings are to be connected by bridges, on a level with each floor, extending over the separating spaces. They are also to be provided with elevators. A fire-wall at every one hundred feet will render the building as secure from flames as possible. In these walls there will be no doors, but the connections from one room to another in the buildings will be made by doors in the side walls or balconies on the *outside* of the structures. As the authorities of the City of Cairo have adopted the standpipe system of waterworks, additional protection against fire will be secured. The steam to run the machinery will be conveyed in one large steam pipe, running through the centre of the buildings. The new works will be built gradually, and it may be three years before the business can be entirely transferred to Cairo.

THE OIL LAMP AND STOVE TRADES OF BIRMINGHAM.

(BY OUR OWN CORRESPONDENT.)

At the present time, I regret to say, the oil lamp and oil and gas stove trades of Birmingham are quiet, the home trade most especially. This is no doubt owing to the very mild weather, and it is believed that a few day's frost would quickly revive it, and secure an influx of orders. It is expected that the Sanitary Exhibition of Brighton, which opens in a few days, and the Smoke Exhibition of Kensington, which opens on the 1st December, will together give very considerable impetus to these trades. The export trade to India and South Australia is in better condition. The lamp trade is more active on the whole, perhaps, than the stove, but it is not so busy as it should be this time of the year. All the lamp manufacturers have introduced many new styles, and some firms have made valuable improvements in their lamps. Messrs. Henks and Son, the Albion Lamp Company, and Messrs. Wright and Butler, have recently enlarged their premises, anticipating an increased trade. That it may come to them, and to all, is certainly "a consummation devoutly to be wished for."

THE BRIGHTON HEALTH CONGRESS AND DOMESTIC AND SCIENTIFIC EXHIBITION.

An exhibition of a domestic and sanitary nature is to be held in the Brighton Pavilion during the present month. It will be formally opened on the 12th of December, at 2.30 p.m., and will close on the 21st inst. It is organised by a committee of gentlemen, amongst which is the Mayor of Brighton; as president of the exhibition, the Earl of Chichester has kindly offered his services. The exhibition will comprise domestic and labour-saving machinery, house sanitation appliances, electrical lighting apparatus, and other articles of a kindred nature. In connection with the exhibition is a Health Congress, at which an opening address will be delivered by the president, Dr. B. U. Richardson, F.R.S. The exhibition will open in the heighth of the Brighton season, and as more than two hundred exhibitors have already taken space, it is most certain to be a success. The *élite* of the town of Brighton and the county of Sussex figure amongst its numerous patrons.

Sewing Machines.—The sewing machine factories are turning out a very fair amount of work, both the Singer and Howe Companies' works in Glasgow being well employed, and finding it necessary to extend the manufacture. It will, perhaps, be interesting to notice that of the sewing machines to the value of £8,100 shipped at Glasgow within the past few days, £326 worth went to New York and £463 to Boston. Not many years have elapsed since all the sewing machines used in this country and on the Continent came from America, and now the Glasgow factories are not merely supplying the home, Continental, Indian, and Australian trades, but are actually shipping sewing machines to America.—*Ironmonger.*

LONDON SMOKE.

The following interesting article, referring to the Smoke Exhibition, recently appeared in the *Daily Telegraph*:—

"Above the smoke and stir of this dim spot Which men call earth" there may, no doubt, be a most delightful and exhilarating atmosphere. But, unfortunately, dwellers in London see very little of it. In point of fact, Londoners are smoked out of house and home, and their lives are made a burden to them, owing to the supposed absence of any scientific or practical means of absorbing, utilising, banishing, or destroying the volumes of filthy, unsightly, poisonous matter that is ejected from millions of chimneys that abound in this mighty Metropolis. Smoke is a monster that must be fought and conquered; for he has overridden or defied every prevention Act ever passed by Parliament for the protection of the light-loving citizen. Of all the evils that harass the householder, there are few more intolerable than a smoky chimney. When, owing to some defect in the flue, or dampness in the atmosphere, or change of wind-current, the smoke from a coal fire comes down the chimney instead of going up it, domestic peace is from that instant at an end. No part of the house is preserved from the torture which ensues when the half-blinded servant arrives with the dire intelligence that the chimney smokes. On the top storey of the highest house this pestilent demon has already been discovered. He has wriggled his way through cracks and crevices, and has already laid his strangling hands on the bronchial tubes. Advancing into the halls and passages, he has filled the household with dismay, and given every one of the inmates a fit of coughing. The scene of the offending chimney is even worse than the memorable one described by John Leech in the case of Mr. Briggs. The fire has been so conveniently banked and arranged as to create an immense volume of smoke the instant a match is applied, whereupon descends a thick pillar of this nauseous vapour in the very centre of the once happy apartment. Immediately every favoured object is threatened with destruction. The books are powdered with coal-grit infinitesimally compounded, the curtains are ruined, the china coated with dirt, the chintzes peppered with particles. All efforts to arrest the progress of the smoke fiend are for the moment illusory, not to say contemptible. An energetic housekeeper struggles to mend matters by burning a flare of brown paper up the chimney, but it has about as much effect as burnt feathers under the nose of an hysterical or fainting patient. Every cure seems to aggravate the particular disease. There is no doubt one particular window which, if craftily opened will let out the enemy and restore domestic peace, but the difficulty is to find that window. Open any other, and, in addition to a blast of cold wind, the departing smoke will be driven back into the gloomy apartment, creating more coughing and confusion. For be it remembered that London smoke, is of itself a deleterious and offensive compound, utterly unlike the bluish vapour that curls gracefully round country cottages and is studied for atmospheric effects by landscape painters. It does not arise with a tremor of luminous haze as is found when leaves and faggots are burned in an autumn wood. There is nothing poetical or picturesque at all about coal smoke, and such coal smoke as London chimneys emit. It is a fell destroyer of light and life, and blackener of precious monuments, a corroder of marble, a gloomy tyrant who mocks at our mortification. Smoke is the dismal pall that seems in certain months to smother a dead city; and London, under its influence, is as unendurable as the home cursed with a smoky chimney.

London is very much abused, but it would not be so bad or so unpicturesque a place, after all, if it were not for this horrible nuisance. We praise the bright, clear atmosphere of Paris and other Continental cities, where wood fires abound; but no one who has been accustomed to visit the English metropolis after dark, when fires are out and the new morning is breaking, will fail to give it a good character. There is no need to go to the top of the Monument or of St. Paul's to see the full beauty of the sleeping city. Between night and morning, between dark and daytime, the London atmosphere is positively enjoyable. Coming home from pleasure-parties or late dances, many must have observed the wonderful change, and enjoyed the freshness of the deserted streets. Churches and monuments not hitherto observed stand out in pure outline; nothing interrupts the vision, that sweeps the "long unlovely" streets; and the man who "goeth forth to his work and to his labour," very early in the morning, can testify to the fact of a most enjoyable atmosphere in the London gardens. But the effect is only momentary. When the fires begin and the smoke arises, a cloud settles down on the great city. There is an extravagant waste of fuel in order to obtain immediate heat. Tall manufacturing chimneys vomit forth their nauseous vapour, and it is blown back into the pained eyes. The filthy compound is wafted about hither and thither, commerce and domesticity join hands in aggravating the nuisance, engines must be set going, rooms must be warmed, business and comfort alike must be attended to, while the accumulated smoke-drift makes a thick bank of opaqueness which no sun with all its mighty power can pierce. At some changes of the wind or when the air is moist, the plague is, no doubt, worse than usual. The London fogs of last year were sufficiently alarming and uncomfortable, and it would be very interesting to obtain data of London nubulosity from travellers coming up to town from the immediate suburbs. Take, for instance, a dweller at Hampton on one side and a resident in Hampstead on the other, and it would be curious to ascertain at what exact point of the journey every winter day they passed from sunshine into gloom, and from light into darkness. Even to the unpractised eye the smoke fiend of London is apparent. Long before the tickets are taken at the London end of a suburban journey, the beauty of the day has gone; but, could accurate statistics be obtained of the variety and extent of this smoke-cloud, it would be doubtless discovered that many of us literally live in darkness and consequent depression. For it is impossible to conceive anything more injurious to the spirits of everyone than this gloomy and smoke-stained atmosphere, these darkened days and almost perpetual nights. Who knows but that we might be a more temperate, kindly and cheerful people if it were not for this daily outside gloom that settles on the city? A modern Dante could not obtain a better inspiration for a "Purgatorio" than the winter pilgrimage of weary Londoners, and a new Doré might find a worse subject for realistic interpretation than the grimy passages between late autumn and early spring.

Thanks to the exertions of a body of influential and scientific gentlemen, it is soon to be satisfactorily proved that our recent miseries may ultimately have an end. Those excellent institutions, the Kyrle and the National Health Societies, have joined hands and forced inventors to the front. This is an age of exhibitions of every kind, but one of the most interesting to the resident in London will be that to show people how smoke can be advantageously consumed or made away with, while fuel can at the same time be economically saved. For a long time we go on grumbling until somebody sets us right, and yet we pride ourselves at being a practical people. There are very few housekeepers who do not complain of the inevitable coal bill, and all the dirt, waste and annoyance attached thereto. It has been assumed that we must all burn coal and in enormous quantities; few cellars will contain an ordinary winter supply; this coal grievance demoralises the servants through all the winter months and perplexes the housekeeper. It is appreciated alone by the letter of lodgings who secures an exorbitant impost upon each scuttle. London houses are the best evidence of the dirt and discomfort generated by coal smoke. A whole army of housemaids could not resist the attack of the filth that comes down the chimney or in at the window. The prudent housewife gives up the cleaning question in despair; but she may hope for peace again when the Kensington Exhibition opens, for such is said to be the prodigality of invention that the large space secured will scarcely suffice for the elaboration of this extensive display. In order to create a destruction of smoke it is absolutely necessary to kindle fires, for the one cannot exist without the other, and it is presumed that, should we have a spell of cold or frosty weather, the smoke abatement exhibition will be one of the most popular resorts in London. Be that as it may, it is at least encouraging to learn that the difficulty is not so formidable as was at one time supposed. The first thing is no doubt to waive prejudice so far as possible, and to assist these scientific gentlemen in devising some means of dissipating

darkness and relieving the bronchial tubes. There is a very strong and natural prejudice in England in favour of an honest coal fire, and much may be said in its praise as a companion and a picture. The stove has never been welcomed here as a guest, but has been banished to the hall or passages. At the same time, it is generally agreed that the liberty of smoke has become a licence. We have all been allowed to erect our chimneys and to poison the air, but, now that London has become unbearable in consequence, we must either voluntarily get rid of the smoke of every individual household, or be compelled to do so.

MACHINES OR APPARATUS FOR WASHING CLOTHES.

Mr. Thomas Wilson, of Newcastle-upon-Tyne, in the county of Northumberland, has obtained provisional protection for improvements in machines or apparatus for washing clothes and other articles. The form of this apparatus, and the materials of which it is made, may be varied within reasonable limits. The washer consists of an outer cylindrical vessel with flat or nearly flat bottom, and a removable lid; a dished cover is fixed upon the bottom inside the cylindrical vessel, thus enclosing a cavity upon the bottom, and of similar diameter. Holes are provided in the edge of the cover all round, thus giving access for water, &c., to the cavity. Tubes rise up from this cover to near the top of the outer vessel by preference inclining outwards as they ascend, and a short distance above the top of these tubes is placed a ring secured to the inside of the outer vessel. A perforated internal pan or vessel provided with suitable feet is placed, the feet resting upon the cover previously mentioned; the lid on the top closes all in. The operation is as follows:—Water is poured into the internal vessel, escapes by the perforations, flows over the cover, and enters the bottom cavity through the holes; it should completely cover the top of the cavity. Soap, soap-powder, or other suitable cleansing agent, is placed in the internal vessel with the clothes or other articles to be washed, and when the heat is applied and steam is generated, the steam and water formed in the cavity rise up the vertical tubes, and striking the ring above them are scattered in spray or jets over the clothes within the inner vessel. As the water rises up the tubes more is sucked into the cavity to take its place; this is, of course, drawn from the perforated internal vessel and through the clothes, which thus get thoroughly cleansed; the harder the boiling the more rapid the circulation of the water. The apparatus can either be placed bodily upon the fire or over a gas or other suitable flame, and may be made of copper properly wired and tinued inside, or of cheaper materials if necessary.

The business of Messrs. Fallows and Bate, domestic machinery manufacturers, is now being carried on under the style of Fallows and Bate, Limited.

Messrs. W. Fletcher and Co., makers of the "Midland" bicycle and tricycle, have removed from Well-lane, Earl-street, to more central premises at 20, Times-buildings, Bow-street, Sheffield.

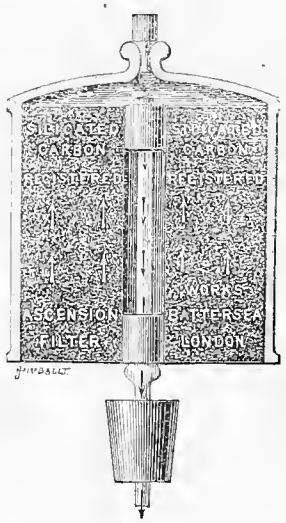
Messrs. Hillman, Herbert and Cooper, bicycle manufacturers, have been awarded first prize for their "D. H. F. Premier" bicycle, at the Montreal Exhibition.

The window of Messrs. Jones and Co.'s depot in the Blackfriars-road, London, was blown in during the past month by one of the terrific gales we have recently experienced. Not much damage was done to the sewing machines and other stock.

FILTERS.

The filter is gradually but surely gaining itself a home in every household, and soon we hope to see it become as general as tables and chairs, or any other indispensable article of domestic use. Its sale is every now and then augmented by the many startling accounts of death or illness which follow the use of impure water. Then many resolve to use the filter, firmly convinced of its value, and no longer regarding it as a

molly-collying invention, and fit only for the whims of fidgetty old maids. It is the old system of shutting the stable door after the steed has taken its departure. When we hear of foul drains emitting, as Shakespeare hath it, "the rankest compound of most villanous smell that ever offended nostril," and coming in contact with the water we drink; when we learn that there are thousands of cisterns, not only in the metropolis, but in many other towns, rarely, if ever, cleaned; and when

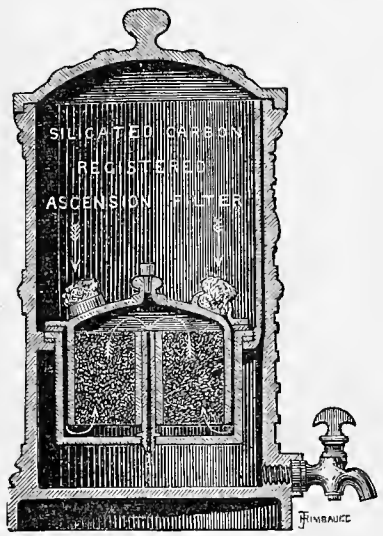


we know that cisterns are swimming baths for rats and other vermin; then we are most certainly glad to find that the filter is coming into more general use. But even at the present time we do not suppose that one house in a hundred contains one of these valuable articles, although, thanks to the manufacturers, they are now so cheap as to be within the reach of all. The English housewife, with that indisposition to change characteristic of John Bull, resents any such "new-fangled notions," and prefers to use from the tap direct. But the many cases of blood-poisoning from impure water have awakened English matrons to its value, and in sanitary exhibi-

ions and in many shop windows where they have been displayed, she has seen the thick, muddy, loathsome water, pass through the filter sparkling, pure, and clear, leaving its glut of poisonous matter to the digestion of charcoal inside the filter.

All dealers in domestic appliances should keep this article, and one placed in the window (in which say some local foul water comes out pure), will be an attraction to the passers by. There are not many manufacturers of these articles. We will give their names and addresses, so far as we know.

One of the largest and best known manufacturers is the Silicated Carbon Filter Company, of Battersea, S.W. Their Ascension Filters are well known. In these the blocks are movable, and can be taken out, when, with the aid of a piece of india rubber tube, they can be converted into pocket filters, the small india rubber peg at the top being placed in the socket-hole at the bottom. The water passes through the



carbon in the directions shown by the arrows in the illustrations. When cleansing the filters, the small india rubber peg should be removed and placed in the socket at the bottom ; the carbon should be strongly blown in from the top, and scrubbed with a brush and boiling water. All the parts are kept in stock by the company, and therefore new carbon media can be supplied without the filters being returned to the makers.

For hospitals, schools, and large establishments, Messrs. Lotz and Co., of Barbican, E.C., export a good filter for fixing on to the tap, thus ensuring that every drop of water used shall be filtered.

Messrs. Slack and Brownlow, of Canning Works, Manchester, make a very good compressed charcoal filter, while Mr. Cheavin Boston has a good reputation for these articles. Other well known manufacturers are Messrs. Davonport and Co., High Holborn, W.C., and L. Lipscombe and Co., 44, Queen Victoria-street, E.C. There are many other manufacturers in London, whose address we shall be happy to give to any of our readers who may require the same.

STOVES.

Mr. Henry Defty, of Middlesborough-on-the-Tees, in the county of York, engineer, has obtained provisional protection for "Improvements in Stoves of Combustion." First this invention relates to an increased furnace made of various forms, either of iron or of other material, for generating heat in domestic or other stoves where a graduating heat is required, whereby his improvements can be applied and adapted to any size, shape, or form of furnace, by preference of iron, whereby the arrangement becomes inexpensive for the common dwelling house purposes, also halls, churches, conservatories, malting kilns, and all places where such may be required. To this arrangement of furnace a grate with a fire is fixed, the same being cased by an arrangement of transparent shell or doors to protect the fire from the action of the cold air, and to permit a clear view of the burning fire, all air for combustion to pass from the back and bottom to the grate to keep a clear graduating close hydro carbon flame. Immediately over the flame can be placed ovens or boilers for domestic purposes, and all heat not used at this stage as it ascends to the stack comes in contact with an arrangement of small chambers so arranged for air passing through from one portion of the chamber to another that all the air becomes heated by condensation and by the contraction of the rarified volume, thus preventing any smuts or oxide of carbon from passing the collectors, which become coated with the soot, which soot by means of a suitable metallic cleaner is again passed back to the fire, so as to keep a clear passage. The air when so heated can be conducted by an arrangement of tubes from an ordinary kitchen or other grate to any number of rooms in a house or building, thus preventing waste of fuel and inconvenience arising from smoke.

CURIOUS INSTANCES OF THE IMPORTANCE ATTACHED TO COVERINGS FOR THE HEAD.

(Continued.)

There is yet preserved a picture, by Giovanni Bellini, representing the reception of a Venetian ambassador at the Sublime Porte in the early years of the sixteenth century. Turbans of every conceivable shape and form, of grotesque magnitude, are worn in this picture by the Commander of the Faithful and his great officers of state, but not a single fez is to be seen. There is another painting, dating from the year 1788, of a French ambassador dining with the Grand Vizier in the hall of the divan. Some of the Turks wear kalpaks, while others assume "full moon" or "pumpkin" turbans. The Turkish servants bringing in the dishes have very high conical caps.

Sugar-loaf caps have always been worn and are worn to this day by the dancing dervishes, who are an accredited ecclesiastical corporation; but the howling dervishes, who may be described as a kind of "scratch-pack" of religionists, were allowed to wear turbans, or, for the matter of that, to howl bare-headed if they liked. The fez in a modified form—that of a closely-fitting red skull-cap—was the nucleus or core of the turban, aud was thus altogether concealed from view; whereas the tarbouch, being, on the other hand, of a stiff material and taller than the fez, appeared above the summit of the turban.

The small "natty" fez, with its gold or silver tassel, at present so generally distinctive both of the Osmanli and of the Ottoman Greek, was in former times worn much more habitually by the Turkish women than by male Turks. It was the favourite headdress in the harem; for the Turkish women, in contradistinction to their Mahometan sisters in Hindostan, very rarely wear turbans. Singularly enough the Sultan, who arbitrarily deposed the turban in favour of the tasselled fez, wore at his accession to the throne a turban well nigh as gorgeous and as colossal as the historical ones of Amaruth II. and Selim III. The turban assumed at the beginning of his reign by Sultan Mahmoud Khan, the great Turkish reformer, was an astounding structure of muslin, silk, cloth of gold, precious stones, and ostrich feathers.

As swiftly and as ruthlessly as the Muscovite Czar compelled his boyards to cut off their beards and appear in powdered wigs, tail coats and smalls, so did Mahmoud II. force his pashas and effendis to throw aside the garb of the Arabian Knights and accept the simple uniformity of costume—the plain single-breasted black surtout and trousers and the fez cap—distinguishing the modern civilian Turk. Such is the dress worn to-day alike by the Minister of State at the Porte, by the shipbroker's clerk at Galata, and by the hotel valet de place at Pera. Only the Ulema, the conservative shopkeepers in the Bezezteen, and the beggars retained the turban. The dancing dervishes adhered to their sugar-loaf mitres; but

every other male Ottoman, civilian or soldier, contentedly donned the fez. This headgear, it is worthy of remark, comes from a Moorish city whose people wear turbans.

Not alone has the great hat question exerted its influence in Ottoman politics, it has also left its mark in the history of Russia. The backwardness of civilisation in Russia is traced to the Emperor Paul, who held in particular detestation and treated with particular disrespect that masterpiece of civilised culture, the tall black hat. He issued an ukase prohibiting its use under heavy penalties. It is also a matter of history that a foreign ambassador at this Court insisted on wearing the obnoxious headgear, and was on that account and no other dismissed by the Czar.

It is only a few months since one Vincenzo Ferrara, a Neapolitan hatter, was arrested for exposing for sale articles of headgear labelled "Passavante Hats," the Crown Prosecutor filing the hat and label as exhibits, and charging the tradesman with "exciting to scorn of the King's person," Passavante being the would-be regicide.

Last year, too, hats came before the Indian authorities, when some of the natives of Calcutta memorialised Sir Ashley Eden, praying that their fellow-countrymen should wear their puggarees when at durbars, in courts of justice, and "on all other official occasions," and that those wearing headdresses not thus bound round with the turban should be requested to uncover their heads in token of respect, their real desire being to obtain the liberty to appear uncovered. The Lieutenant-Governor of Bengal did not decide as they wished, but he availed himself of the opportunity of declaring officially that "brimless caps form a very slovenly and unbecoming style of dress for public occasions;" and he added, "the memorialists are much mistaken if they suppose that in wearing brimless caps they are imitating European customs. No European of respectability would appear in public in such caps, and they cannot therefore claim, as they do, to associate its adoption with Western culture."

The same question also came up before the High Court of Bombay, where the Chief Justice took exception to the shape of a Parsee's hat and gave the wearer the choice of removing his head-gear or going out of court. The hat in question was an "improvement" on the ordinary Parsee hat; it had the dome shape of a certain style of wide-awake, but in lieu of a brim it had a sort of dummy turban, the whole being black. The learned Chief Justice being short-sighted, took the head-piece for a European wide-awake, and was much shocked at the want of respect shown by wearing it in the presence of the Court. His lordship refused to listen to the explanation preferred by a Hindoo *amicus curiæ*, and the unhappy wearer was placed in the embarrassing position of having to choose between the dire alternatives of uncovering his head and exposing it to the vulgar gaze, or of being obliged to go out of court as if he had misconducted himself.

To a European, compliance with the cry of "hats off" in no way involves the committal of a sin, with the possible loss of Paradise hereafter. But a Parsee must not be seen with his head uncovered (or for that matter his feet either) under pain of divers penalties which interfere with his comfort both here and hereafter.

Quite as puzzling a case involving the wearing of hats in court came up about the same time at the Hammersmith Police-court. Of course the amenity of soldiers to military law does not exempt them from the regulations of the wider code, and a soldier who commits murder is tried, not by his officers, but the common tribunal of the judge and jury. Still in military matters military law prevails, and no incident of it is better known than that a soldier never uncovers except at a court-martial. The London magistrate found a lance corporal of the militia in his court wearing and persisting to wear the forage-cap of his uniform. The officers remonstrated with the man, and the remonstrance of the officers was supported by the command of the magistrate. Both directions were unavailing. Like the sergeant at mess who refused to hand the catsup "because he had been told off to the pickled walnuts," this lance corporal of militia could only obey one order at a time, and found himself constrained by the exigency of the Queen's regulations. It was in vain to explain to the soldier that there was a decision against him. He took a military view of a military subject, and was quite unconcerned to learn that he was committing a contempt of court. Happily the magistrate kept his temper and merely ordered him to leave the building, but no English statute as yet decides this very important question.

The chimney-pot hat, for all its wide use, has been more criticised than any other article of modern dress. "Look," says Mr. Watt, the English artist, in a recent essay on art, "Look at a well dressed gentleman ready for dinner or attired for any ceremony! His vesture nearly formless and quite foldless, if he can have his will. His legs, unshapen props; his shirt-front a void; his dress coat an unspeakable piece of ignobleness; and all this surmounted by a chimney-pot hat! Put it into sculpture and see the result!" There is one civilised country, however, where at one season of the year the chimney-pot hat is not tolerated. At Rome during the carnival week the chimney-pot fares even as the white hat in the New York Stock Exchange when the period prescribed by tyrant custom for shooting the hat has arrived. This every one knows and no one thinks of wearing one. Even the most correct coachman wears a *melon*, to save himself and horses from public ire. A few obstinate people, however, will wear a high hat or compel their coachman to do so. The consequence is a shower of bunches of grass upon them. Sometimes the wearers revolt and show fight, which makes matters worse. At the last carnival a high-hat wearer brought out a knife, but he was soon disarmed and taken to the nearest police-station, where his hat remained in safety for the rest of the day. On another occasion a bunch of flowers hit a couple of horses, which took fright and started on to the nearest pavement, creating a panic of fright and throwing down a woman and two children, who had to be taken to the hospital.

Baudelaire, the author of the "Flowers of Evil," had probably the worst hat ever seen in Paris—a hat to which he was passionately attached, as it served as a touchstone to test the friendship of his acquaintances. When one of his associates was invited to walk along the boulevards of a sunny afternoon—the poet's head-covering being particularly atrocious—and declined the offer or proposed to buy the bard a new hat before setting out, his name was instantly struck from Baudelaire's "list of friends."

The felt hat, it is worth adding, on the authority of a recent writer, is as old as Homer. The Greeks made them in skull caps—conical, truncated, narrow, or broad brimmed. The Phrygian bonnet was an elevated cap without a brim, the apex turned over in front. An ancient figure of Liberty (A.D. 145) holds the cap in the right hand. The Persians wore soft caps; plumed hats were the head dress of the Syrian corps of Xerxes; the broad brim was worn by the Macedonian kings. The merchants of the fourteenth century wore a Flanders beaver; Charles VII., in 1160, wore a felt hat lined with red and plumed. The English men and women in 1510 wore close woollen or knitted caps; two centuries ago hats were worn in the house. Pepys, in his diary in 1664, wrote: "September, 1664, got a severe cold because I took off my hat at dinner;" and again in January, 1665, he got another cold by sitting too long with his head bare to allow his wife's maid to comb his hair and wash his ears.

Lord Clarendon, in his essay, speaking of the decay of respect due to the aged, says "that in his younger days he never kept his hat on before those older than himself except at dinner. It may be said, in conclusion, that perhaps the most phenomenal hat in existence is one recently exhibited by a Philadelphia hatter. It was 32 inches in the crown, while the brim is nearly a yard in circumference, and made for Charles A. Erling, aged twenty-seven, son of a farmer near Bridgeboro. Erling is within half an inch of five feet high, with very short legs and a very long body. His chest was 44 inches round, and his stomach 41½. He has for years been obliged to lie down, because his body will not carry his head. Medical men say that this enormous size of the head is not caused either by water on the brain or malformation, but is merely the result of an overgrowth. He has perfect health, but is totally uneducated, as his friends thought it would do him harm to learn lessons. The hat made for him is twenty sizes larger than that of Daniel Webster, and Erling's brain is at least thrice as large as an average brain.

QUESTIONS AND ANSWERS.

TO THE EDITOR OF THE "JOURNAL OF DOMESTIC APPLIANCES AND SEWING MACHINE GAZETTE."

Will you kindly give me names and addresses of a few English washing-machine manufacturers?—Brussels. —— The following s the list so far as our memory serves us.—[Editors J. O. D. A.]

Acme Machine Co., Glasgow.
Anglo-American Laundry Co., Fann-street, E.C.
Beard, John, 67, Silchester-road, Notting-hill.
Beveridge and Robinson, Kirkcaldy.
Bradford and Co., Manchester.
Entwisle and Kenyon, Ewbank, Accrington.
Feather and Smith, Oldham.
Follows and Bate, Manchester.
Green and Co., Limited, Leeds.
Heaps Bros., Feather and Lund, Keighley.
Hurst, B., and Son, Halifax.
Holmes, Pearson, and Medgley, Keighley.
Kent and Co., Holborn, W.C.
Kenworthy, E., and Son, Oldham.
Moore and Murton, Keighley.
Smith, L., and Co., Bury, Lancashire.
Summerscales and Son, Keighley.
Taylor and Wilson, Accrington.
Theobald, E., Greenwich.
Thomas and Taylor, Fonthill-road, Finsbury Park.
Twelvetrees, Harper, Finsbury-pavement, E.C.
Wayatt and Co., Liverpool.
Wilding, Poulton Le Fylde.
Whiteley, J. K., and Co., Poultry, E.C.
Wolstencroft and Co., 93, High Holborn.
Whalley, Smith, and Paget, Keighley.

Dissolutions of Partnerships.

Burnett and Farrer, Leeds, bicycle makers. November 5.

Burns, Edward and Co., Halifax, machine brokers. October 24. Debts by Edward Burns.

Godsall and Read, Scholefield-street, Birmingham, bicycle and machine oil can, &c., manufacturers. October 31.

Mabbett and Pink, Romford and Barking, ironmongers. October 6. Debts by John Thomas Pink.

Smith, Marks, and Co., Keighley, washing machine makers. October 31.

Liquidations by Arrangement.

Skeet, William, Wellington-street, Aldershot, ironmonger. Oct. 25.

Brooke, Charles William, Bournemouth, ironmonger. Nov. 5.

Winder, John, Stricklandgate, Kendal, and Thomas Winder and Stephen Winder, both Kirby, Lonsdale, trading as T. Winder and Sons, ironmongers. November 4.

Collins, Alfred, Stalbridge, Dorset, ironmonger. November 7.

Beach, James, Union-street and Station-road, Plymouth, bicycle manufacturer and machinist. November 19.

Daubney, Robert Henry, Wainfleet All Saints, Lincolnshire, ironmonger. November 18.

Fawll, Joseph, Morriston, near Swansea, ironmonger. Nov. 15.

Flood, Selina, Market-street, Atherstone, ironmonger. Nov. 16.

Hately, David, Albert-road, Hoylake, Cheshire, ironmonger. November 15.

Walker, Emma, trading as E. Walker and Son, Earl's-court-road, ironmonger. November 16.

Ware, Francis James, Highgate, Hawkhurst, Kent, ironmonger. November 16.

Bills of Sale.

Edwards, Thomas, 1, Garston-terrace, Hornsey Rise, ironmonger; £117 11s. 2d. In favour of Hemmings Brothers. Filed October 27.

Freeman, Samuel, 35, Loampit-vale, and 28, and 29, Elinor's-street, Lewisham, and 66, Bartholomew-close, City, sewing machine maker; £66, &c. In favour of Thomas Fairhead. Filed October 27.

Holleyhead, John, 138, Carlisle-road, and Cleveland-street, Grimesthorpe, Sheffield, bicycle and sewing machine maker; £15, &c. In favour of Benjamin Jacobs. Filed October 27.

Searle, William, 37, Silver-street, Regent-street, sewing machine agent; £12 10s., further chge. In favour of L. & W. Loan, &c., Co. Filed November 5.

Smith, John, 36, Clifton-street, Cardiff, ironmonger; £500. In favour of William F. Gillett. Filed November 1.

Maggs, Thomas, 286, Old-street, Shoreditch, sewing machine manufacturer; £75. In favour of Alfred Culmer. Filed November 11.

Shrimpton, Herbert, 7, Longfield-avenue, Black Horse-lane, Walthamstow, and 52, New North-road, Islington, furnishing ironmonger; £293 2s. 6d. In favour of Samuel Betts. Filed November 10.

Smith, John, 36, Clifton-road, Cardiff, ironmonger; £500, not ex. In favour of John Cormell. Filed November 8.

Edwards, James, 12, Railway-terrace, Sittingbourne, sewing machinist; £80, &c. In favour of Liverpool Commercial Trust Co. Filed November 19.

Gubbins, Joseph Payne, 116, Camden-road, Tunbridge Wells, Kent, ironmonger; £50. In favour of William H. Chapman. Filed November 16.

Manlove, Joseph Henry, 63, Junction-road, Upper Holloway, ironmonger; £145, &c. In favour of Union Deposit Bank. Filed November 18.

Parr, Edward, High-street, Brentwood, Essex, ironmonger; £250 absolute sale. In favour of John Barrett. Filed November 19.

Parr, Edwin, Brentwood, Essex, ironmonger; indemnity. In favour of John Barrett. Filed November 19.

County Court Judgments.

Beckerley, C. T., Maraspoir, Penzance, Cornwall, ironmonger; £12 16s. 8d. October 1.

White, G. W., Christchurch, Hants, ironmonger; £10 5s. 2d. October 8.

Baker, William, Burnham, Somerset, ironmonger; £10 1s. 0d. October 6.

Barrett, William, Barrow, Lancashire, ironmonger; £16 8s. 4d. October 5.

Hoare, John, 8, Sidney-terrace, Kilburn, ironmonger; £19 10s. 9d. October 3.

Pullen, J. F., 180, High-street, Deal, Kent, ironmonger; £16 5s. 1d. October 7.

Hawes, Daniel, 55, Croydon-road, Barking-road, ironmonger; £18 6s. 3d. October 12.

Shrimpton, Herbert, 52, New North-road, ironmonger; £13 1s. 8d. October 11.

Smith, John, 36, Clifton-street, Roath, Glamorganshire, ironmonger; £14 2s. 11d. October 11.

Steele, C. B., 114, High-street, Kensington, ironmonger; £16 11s. 10d. October 12.

Williams, John, 10, High-street, Mold, Flints, general ironmonger; £14 8s. 3d. October 5.

Halle, S. B., 168, Stoke Newington-road, ironmonger; £14 4s. 3d. October 25.

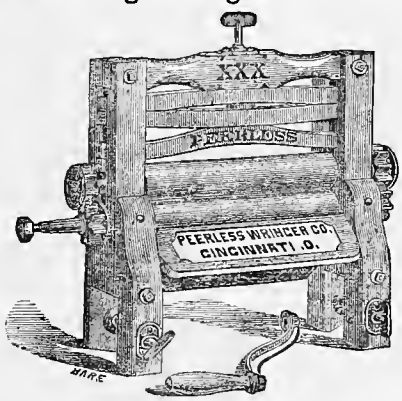
Smith, John, 36, Clifton-street, Roath, Glamorganshire, ironmonger; £10 13s. 2d. October 17.

Synonyms for the announcement of births, marriages, and deaths continue to be multiplied by ingenious transatlantic journals. One paper styles them "Babies, Brides, and Bodies," another adopts "The Cradle, the Dungeon, and the Tomb;" a third, "Buds, Orange Blossom, and Cypress," but "Hatches, Matches, and Dispatches" carry off the palm.

THE "PEERLESS" CLOTHES WRINGER

Is the leading Wringer of America.

AWARDED THE FIRST PRIZE *Wherever it has competed.*



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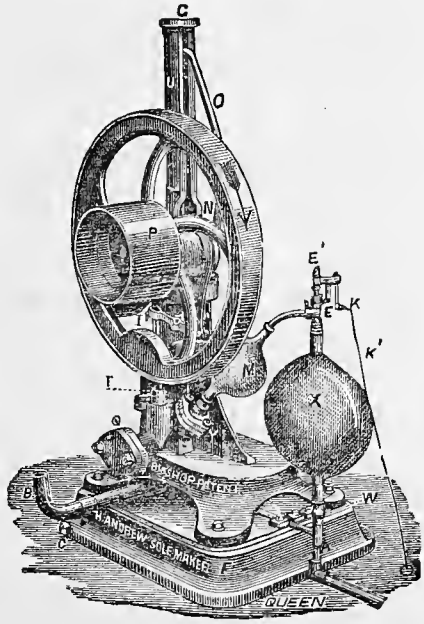

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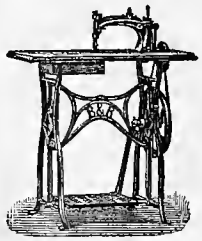

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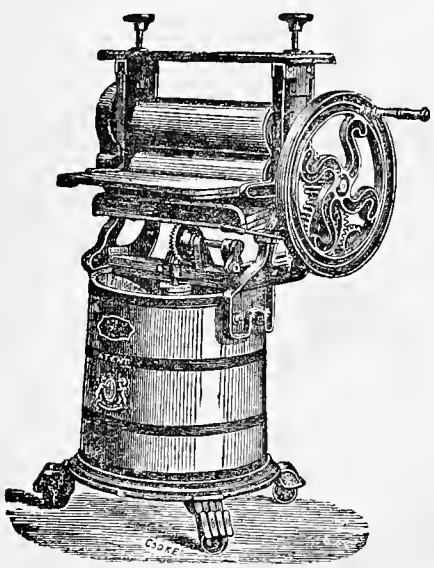

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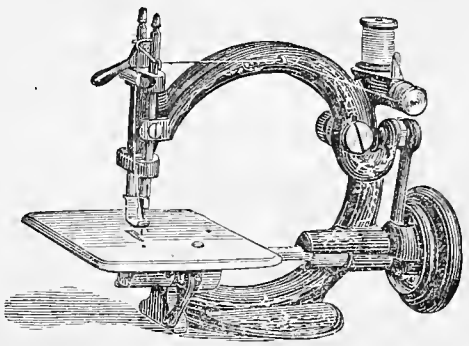

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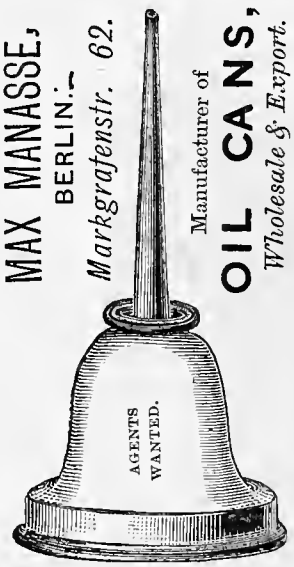

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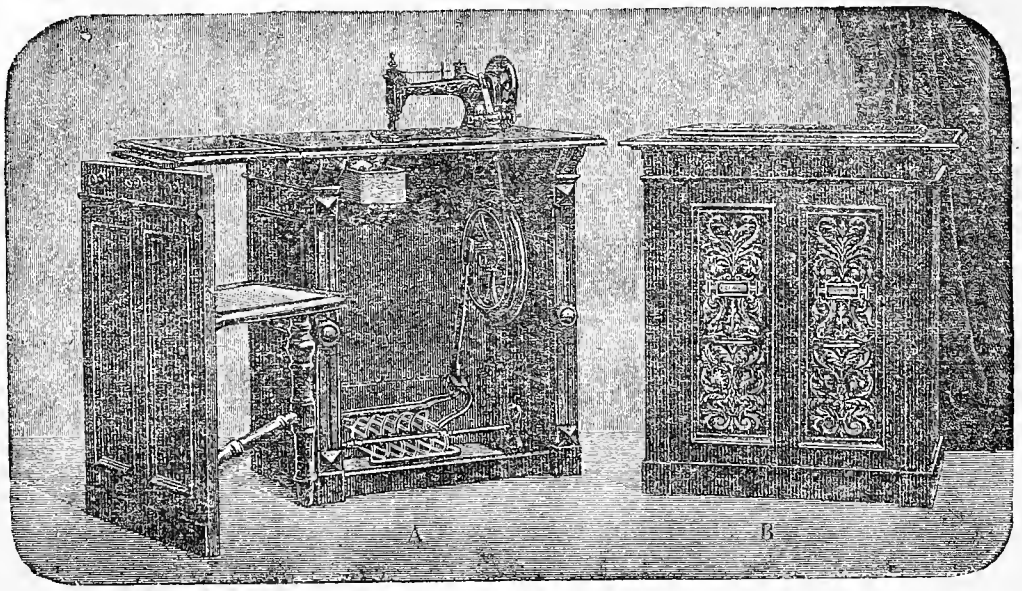

The Cabinet with the Machine sunk into it and locked up shows no trace whatever of its being destined for sewing work.

Fig. A. OPEN Chair Withdrawn.

Fig. B. LOCKED Chair and Sewing Machine within

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Without or with our machines, either plain style or inlaid in mother of-pearl, and highly ornamented in hand painting by special artists. All machines with loose wheel and self-acting winder.

COMBINATION CABINET CASE, WITH CHAIR AND EXTENSION TABLE.

Furnished for all systems of machines.

Very useful. More solid than iron stands.

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Novel!
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G. E. WRIGHT'S PATENT SEWING MACHINES.

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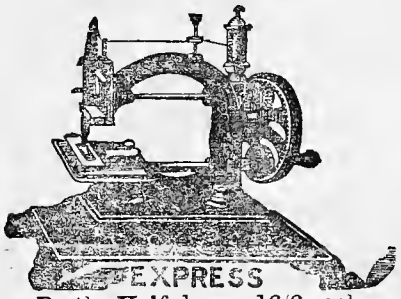
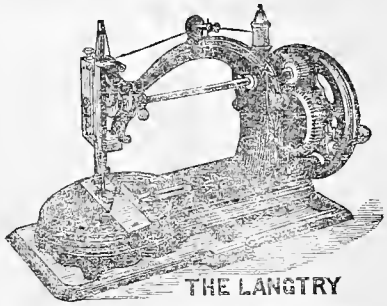


By the Half-dozen, 16/6 each.

LOCK-STITCH.



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"EMPIRE" WASHER.

THE BEST AND CHEAPEST MACHINE FOR FAMILY USE YET OFFERED TO THE PUBLIC.

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No. 1. - - - -	£1 10 0
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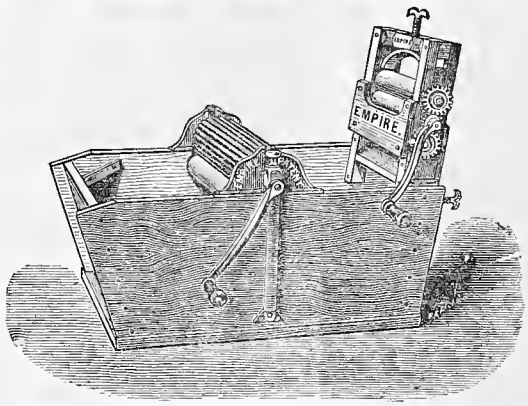
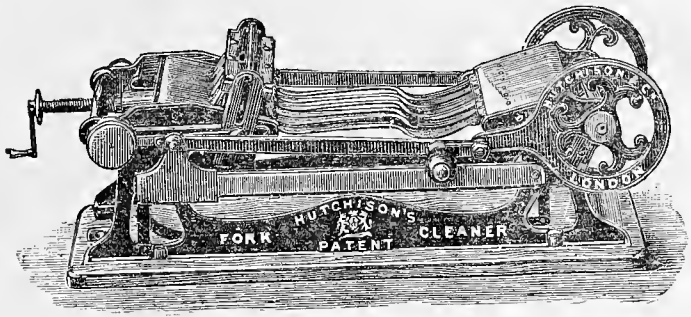
Liberal Discount to the Trade. For Illustrated List apply to Makers,



T. WOLSTENCROFT & Co.,
93, HIGH HOLBORN LONDON.

HUTCHISON'S PATENT FORK CLEANING MACHINE,



Length, 23 inches; width, 12 inches; height, 9 in.

Adapted for Hotels, Clubs, Restaurants, and Private Houses. It is constructed to polish SIX FORKS AT A TIME, and renders an even and brilliant polish without injury, by the simple method of a rotary handle which can be turned any way.

N.B.—This Machine is the greatest preventative of damage to which the prongs are exposed when cleaned by hand.

HUTCHISON'S PLATE POWDER,

As used in the Patent Fork Cleaning Machine. For cleaning and brilliantly polishing all kinds of Plate, Plated Articles, Metal, Tin, Pewter, Looking Glasses, &c. To be had at Oil and Colour Warehouses, and of Ironmongers and Storekeepers.

Prices, in Tin Canisters, ½-lb., 6d.; 1-lb., 1/; 2-lb., 1/9.
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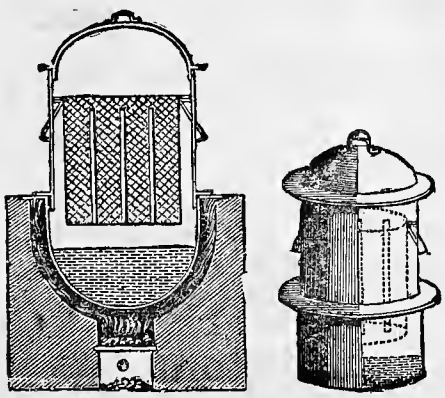
MANUFACTORY: 51, FANN STREET, ALDERSGATE STREET, LONDON, E.C.



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MAGIC STEAM LAUNDRY WASHER

SECURED BY ROYAL LETTERS PATENT.

The cheapest and most economical Washer introduced, avoiding all the wear of linen caused by present modes. Things to be washed only require to be soaked, soaped, steamed, and hand-rubbed once,

Steamed 20 Minutes over Copper.

No use of chemicals, soda, dollies, maids, wash-boards; no turning or pushing machine handles; only one-half the soap used. See opinion of JESSE OVERTON, Springfield Laundry, Leamington, in *Queen* of 17th of July, page 68:—"The steam softens, and the condensed water carries away grease and stickiness, just as a belt of perspiration does off a dirty forehead."

COLOUR OF WASHING DECIDEDLY IMPROVED.

MAGIC LAUNDRY WASHER COMPANY.

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"HOME" WASHER - - - - FIRST PRIZE
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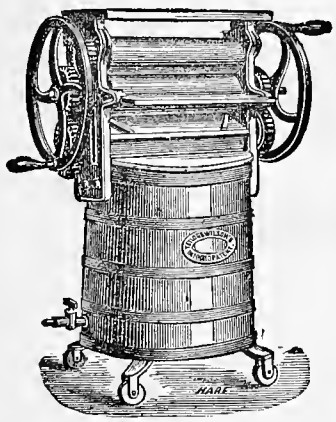
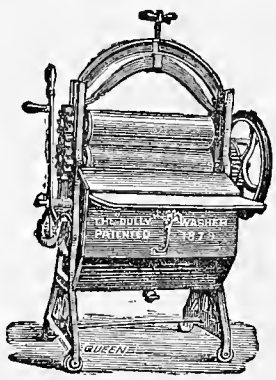
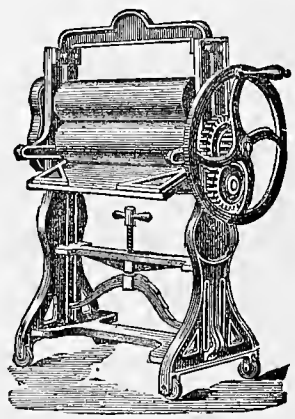


Price, £6 : 6 : 0.



Price, £3 : 10 : 0.



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Awarded upwards of 150 Gold and Silver Medals and First Prizes.

THE ANNUAL SALES EXCEED THOSE OF ANY OTHER WASHING MACHINE.

Our Goods are all guaranteed to be made from the best materials, thoroughly seasoned, and are all fitted with our well-known patents and appliances, which cannot be supplied by any other maker.

Illustrated Catalogue free on application to

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For High Merit.

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For Progress.

London, 1862,
For General Great Excellence.

Philadelphia, 1876,
For Superior Excellence.

MARSHALL & CO.

Linen
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MANUFACTURERS

Shrewsbury,
England.

Linen Sewing-Machine Threads. **Shoe Threads.**

Sole-Sewing Machine Threads, For Blake, Keats, Pearson & other Machines

Wax Machine Threads, of Best Quality and Special New Quality.

Saddlers' Threads. **Harness Threads.**

Also, Hand Sewing Threads, { for Tailors' work, Domestic use, Book-binding, Carpet Sewing, &c.

Six-Cord Machine Twist, used in substitution for Silk.

Gilling Twines. **Macrame and other Lace Threads.**

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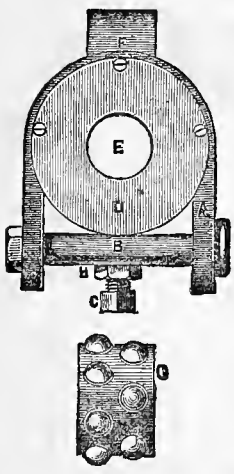
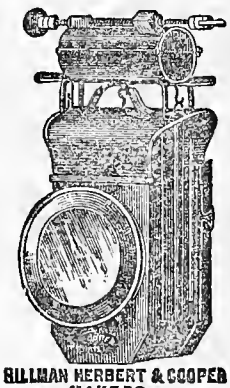


PATENT DOUBLE

BALL BEARINGS.



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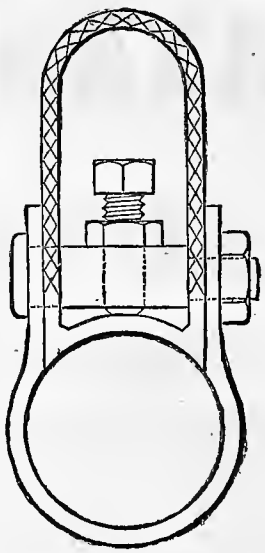
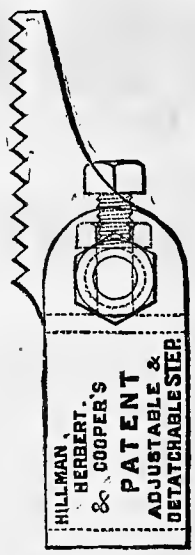
COOPER'S

INEXTINGUISHABLE HUB LAMP.

The only Lamp that does not go out on a rough road.





On the "**D.H.F. PREMIER,**" fitted with our Patent Ball Bearings, was accomplished The greatest distance ever ridden in one week, viz.:—**1,405 MILES**, and on the same Machine The greatest distance in one day is **262 MILES**.

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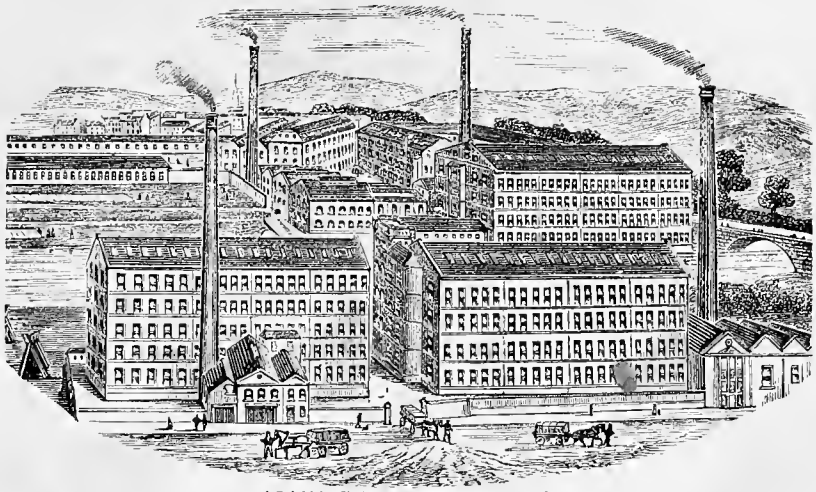
Please send another large size "Cooper's Patent" Lamp, so that I may get it to-morrow. It is the grandest thing in Lamps that I have ever seen or tried.—Yours truly, W. Tattersfield.

Dear Sirs, Brighton, December 27th, 1880.

We have much pleasure in testifying to the excellence of "Cooper's Patent Lamps," which give great satisfaction. Yours truly, H. Revell Reynolds, jun., Dark Blue B.C., and L.B.C.
E. K. Revell Reynolds, Dark Blue B.C.
L. B. Reynolds, L.B.C.

All Communications to be addressed to the Works, COVENTRY.



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INDEPENDENT TESTIMONY.

FINLAYSON'S THREAD.

AT THE

GREAT AMERICAN LEATHER FAIR

The Threads manufactured by FINLAYSON, BOUSFIELD & CO. are in practical and exclusive use during the Exhibition in Mr. Tilton's Boot Factory, and by the Goodyear, the Blake, the Keats, the National Wax Thread Machines, and by the New International Dry Thread Machine. This, as a practical endorsement of this Thread, is certainly very suggestive, and it is doubtful whether stronger testimony, from those best qualified to judge, could possibly be given "as to the quality of the article under notice."—*Boston Advertiser*, September 10, 1881.

FINLAYSON, BOUSFIELD & CO.,

FLAX MILLS,

JOHNSTONE, near GLASGOW,

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GREAT FURTHER IMPROVEMENTS IN

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"VILLA" WASHING MACHINE, Newest Style, with Reverse Action £2 15 0
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MANUFACTURED BY

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EXPRESSLY FOR BOOT & SHOE MAKERS,

FOR

SADDLE AND HARNESS MAKERS,

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Manufacturers of all kinds of Leather Goods,

ARE SPECIALLY ADAPTED FOR THE CLOSING OF EVERY DESCRIPTION OF BOOT TOPS.

Flowering Machine (with patent vibrating attachment.)

A SPECIAL MACHINE FOR ELASTICS.

Branch Offices and Agencies in every Town in the United Kingdom.

Price Lists and Samples of Work FREE on application.

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WHOLESALE AND FOR EXPORTATION.

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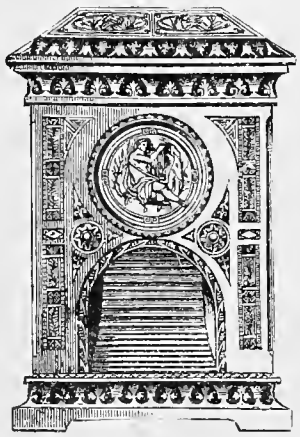
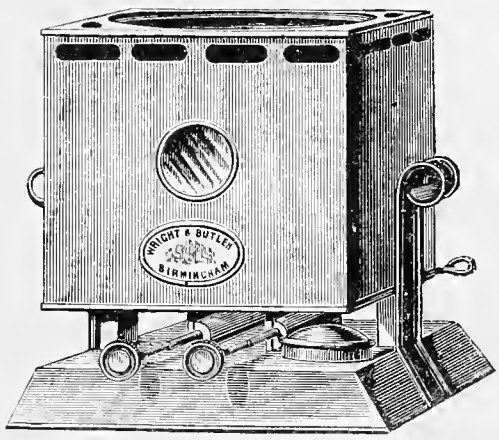
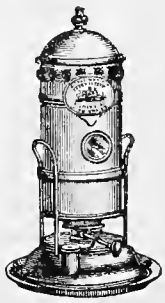
SUPPLEMENT TO THE JOURNAL OF DOMESTIC APPLIANCES
AND SEWING MACHINE GAZETTE
DEC. 1ST 1881.



No. 58 Patent Cheerful
Heating Stove.

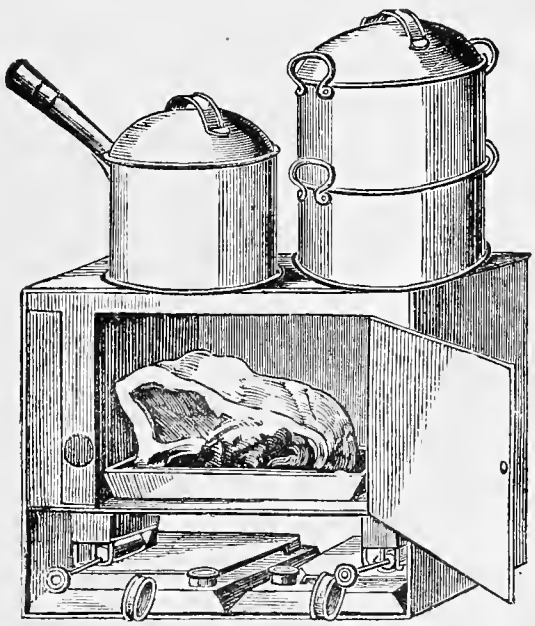


Patent Boiling & Frying Stove.

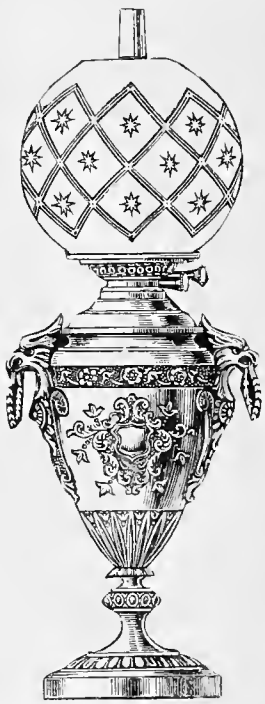


Eclipse
Heating Stove.

No. 2379. Patent Duplex
Punkah Lamp.

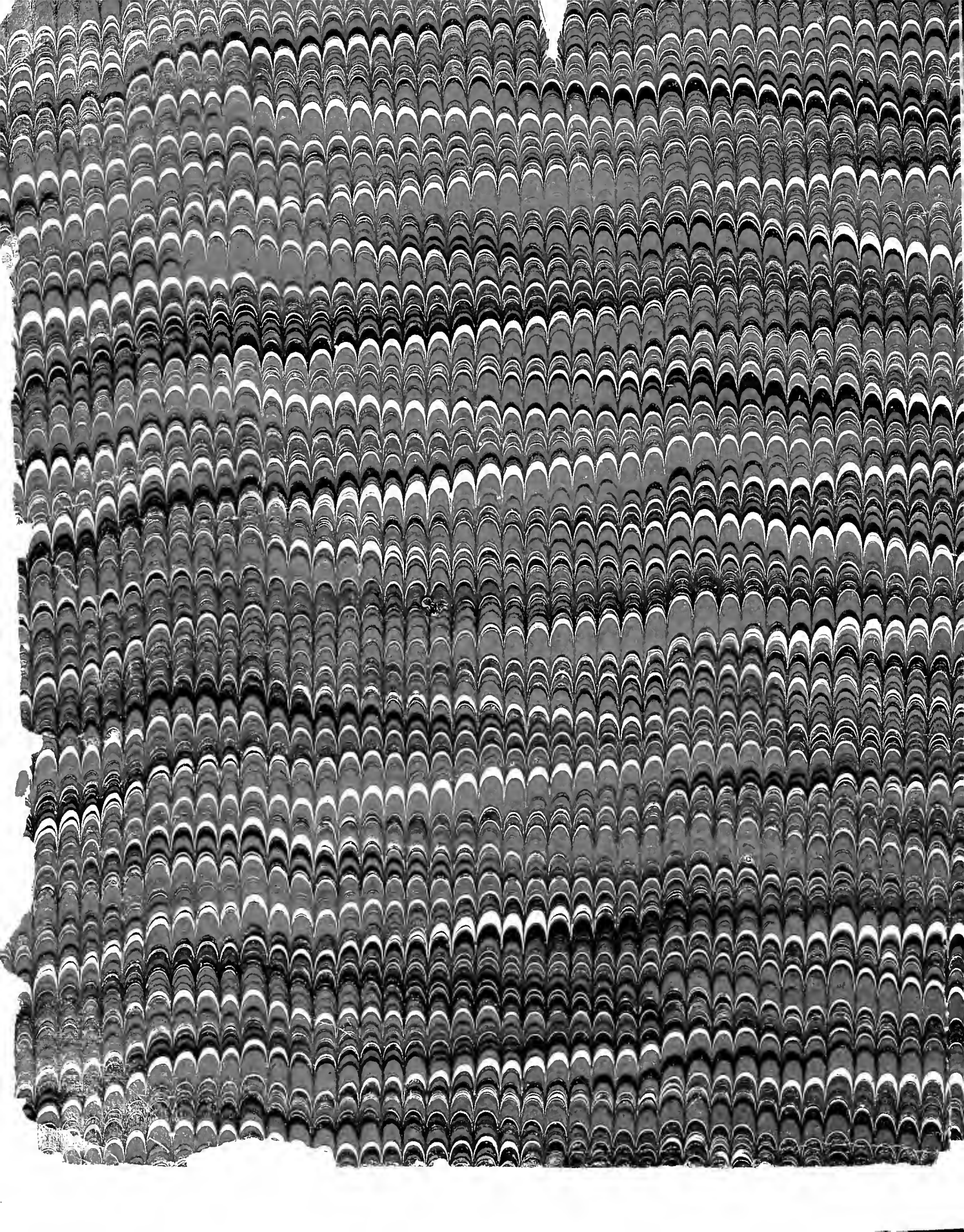


Patent "Combination"
Cooking Stove.



No. 502. Duplex Lamp.

NOVELTIES IN STOVES AND LAMPS,

manufactured by

Messrs. WRIGHT & BUTLER, BIRMINGHAM.